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Report on the Valley of Spiti; and facts collected with a view to a future Revenue Settlement.—By Captain W. C. HAY, B. A., Assistant Commissioner, Kulu.

Approaches to the country.—I gather from information that the valley of Spiti is approachable from our own territories and Kunnáwar, by six different routes.

First Pass.—First, and easiest, is through Kunnáwar, viâ Shiálkar, over a low range of hills by the Kíágar pass to “Súmrah,” the last village in the Busahir territory, and thence across the Spiti river to “Lári,” the first village in Spiti. By this route you meet with three mountain passes; viz. the “Warang,” between “Chuni” and “Lupá” in Kunnáwar, which is 13,000 feet high; the “Runang,” 14,508 feet, between Kannar and Súngnam in Kunnáwar; and the “Húngrung,” 14,837 feet, between “Súngnam” and “Hungo,”—and have to cross the Spiti river which is not bridged; rapid, and $3\frac{1}{2}$ feet of water.

Second pass Mánírang.—The second is over the “Máni” pass, commonly called the “Mánírang;” but “rang” merely signifies a pass. The road to this is from “Súngnam” in Kunnáwar, to “Robak” where copper mines are worked by the Busáhir Rájá; then over the pass, which Captain Gerard, I think, calls 18,000 feet to “Máni,” a village in Spiti, and one march from Dankar: this pass

is not open until May, and closes usually in October. The "Máni" pass bears from Dankar East 46; there are two very high peaks above the pass, and a lake called "Máni-ke-Choh."

Third Pass "Bhubáh."—The third pass is the "Bhubáh Jhote." The road to this jhote strikes off from the Sutlej at the Waugtú-bridge, ascending to the village of "Gutgáon" in the Pargannáh of Bhubáh in Busáhir; thence the pass is two marches from any habitation: it is a high pass, probably near 18,000 feet; you cross it and descend to the village of "Múdh" in Spiti, only one march. This is by far the shortest road to Rámpúr; but the pass is only open from May until October. I contemplated coming to Spiti by this route, but snow fell for four days successively, and I gave up the intention. Two Spiti men afterwards tried it, and had to march unceasingly for two days in 3 feet of snow, and one man was frost-bitten; it is certainly impracticable for Hindustanís in November.

Fourth Pass "Satoláh."—The fourth pass is the "Satoláh," which leads into Kúlú, entering it at "Jagat Súkh;" by this pass you have to pass the Shigri; the marches are as follow:

From Dankar to Kurjeh,	} 2 in Spiti.
Pámo,	
Lohsar,	
Kúnzam ghat, on this side	4.
Shigri Ghátí,	5.
Sutlehet,	6.
Gúnzú Pattar,	7.
Jagat Sukh,	8.

In this route, it is said, there are three streams to pass, which are impracticable for Ghoonts, and only open from May until October.

Fifth Pass "Kanzum."—The fifth pass is "Kanzum Lámú." "Lámú" signifies pass: this leads into Kulu, viâ the Rotang pass, and is only open from May until October.

Sixth Pass "Bará Lachá."—The sixth pass is the Bará Lachá, viâ Láhoul and the Rotang pass. The marches to Lohsar are as at the fourth pass, thence to Takpokongyal to Bara Lachá, &c. :—Only open from May to October.

These are the passes from our own Territories and Busáhir, through the outer chain of mountains.

Passes into Tartary.—Through the second chain of mountains into Ladak and Tartary, there are three passes.

1st to Chúmúrti.—The first from Lári to Chúmúrti in Tartary ; the marches are as follow, being six days' journey.

All these places are beyond our frontier.	{	1st, Húling.
		2nd, Súng-kill.
		3rd, Tún-tún.
		4th, Pút-pút (lámú) said to be a very high pass.
		5th, Rúm-búding.
		6th, Chúmúrti.

2nd Pass into Tartary—"Párang."—The second pass is over the "Párang" lámú, upwards of 16,000 feet, and goes by the villages of "Ki Gúmpá" and Kibar to Rúksú, a district in Ladak. This is usually called the "Párang Lá," Lá being the contraction of "lámú" a pass.

3rd Pass into Tartary—"Tungling."—The third pass is over the "Tungling" lámú, a very high pass, also leading to Rúksú, and the road strikes off between the villages of "Hall" and "Qatu," but on the opposite side of the Spiti river.

These are all the passes through the mountains into Spiti that I have as yet become acquainted with.

Boundaries.—The boundaries of Spiti are as follow. It is bounded on the North by the Párang range, which separates it from Ladak. To the North East there is no defined boundary, but inaccessible mountains.

To the South and South East by the Máni pass ranges which separate it from Kunnáwar.

To the East a valley, called "Kurati" takpo, separates it from Chinese Tartary.

To the West, the snowy range from "Bhubáh" to "Bará Lachá," Bhubáh Jhote, separating it from Busáhir, and the latter from Kulu, and Lahoul. The Bhubáh Jhote is to the W. S. W. and the Bará Lachá N. W. These appear to be all natural boundaries.

Valleys.—The length of the Spiti Valley, longitudinally, I should estimate at about sixty-six miles ; the following being my supposed distances between each place situated in the valley. From the boundary

before reaching Lári,	..	..	..	6 miles.
From Lári to Po,	..	..	..	8
Dankar,	..	..	..	10
Lidang,	..	..	..	6½
Kíü Sing,	..	..	..	4½
Rangrik,	..	..	..	5
Ull,	..	..	..	10
Hansi,	..	..	..	10½
Lohsar,	..	..	..	5½

Total,.. 66 miles.

There are three transversal valleys, one in the direction of the curved line of mountains extending from the Bará Lachá to the Bhubáh pass. The length of this valley to which villages extend may, from the Spiti river to the village of "Múdh," be estimated at 30 miles.

The second transversal valley extends from the Spiti valley, in the direction of another curve of high mountains, separating the Spiti valley from Tartary, and whence arise another line of water heads; the rivers running in an opposite direction. The inhabited part of this valley does not extend above ten miles. From this again, is a lateral valley, running almost parallel with the Spiti, in which are only two villages in about three miles.

A third transversal valley is the "Párang," leading up to the "Párang pass" into Ruksu, or Ladak; in this there are only two villages in about two and a half miles. These may be said to contain the inhabited and cultivated parts of Spiti.

The passes through these valleys I have already mentioned.

Crops.—The crops in Spiti consist of two kinds of barley, one of wheat, peas, and mustard from which oil is made. They sow in May, and reap in September.

Rivers.—The principal river is the Spiti; I followed it up as far as "Lohsar," where it divides into two branches, one called "Pílú" running from the North West, and another flowing from the "Kúnzam lámú," and called "Líchú" from the South West, and said to be four days' journey.

The peculiarity of this river is the immense width of its bed, being (from the time it takes a South and South East direction, where the

“Párang” river enters it, to a point where another stream flows into it from the “Mání rang”) seldom less than half a mile wide, and, in some parts, nearer a mile.

At this season of the year, the maiu stream is not in most places above forty yards wide, or above three feet deep,—that is above Dankar. This river is also remarkable for its very flat bed, and for not containing boulders of any large size—none above a foot in measurement, but much more generally small stones, gravel, sand, and a calcareous marl.

Its principal tributaries are the “Tungling,” “Párang” and “Lingti” flowing into it from the left bank; and the river “Peen” on the right.

The “Tungling” and “Párang” flow from mountains of the same names, each source distant about 20 miles.

The river “Lingti” flows from Lúngpá: it is said to be two days’ journey, and above the village of “Lílong” it is called the “Pedangehi;” its bed is about eighty yards, and the stream at present is about 20 feet wide.

The river “Peen” is said to flow from the “Bhubáh” Jhote and above takes the name of the “Bhubáh.” When the river takes a S. W. direction it is joined by another considerable stream, the “Yensá,” flowing from a mountain of that name two days’ journey from its junction with the “Bhubáh.” Another large stream then joins the “Bhubáh” called “Para Kiö,” which is said to flow from a mountain of that name four days’ journey; its course appears to be nearly South. The “Bhubáh” then takes the name of “Peen” from the Koti of “Pínú,” or valley, through which it flows. The width of this river bed is from 300 to 800 yards.

There are many other feeders to the Spiti, but which may be more appropriately termed torrents, principally running into the Spiti, on its right bank, with a course from the mountain, through which they have forced their way, of about half a mile: some of their beds are very remarkable, from 300 to 500 yards wide, quite straight and parallel, like the banks of a canal, and the débris, in some instances, from 200 to 300 feet above the water level: the rush of water on the melting of the snow, must be very great through these channels. The Spiti river is, at this season of the year, in some parts completely frozen over, and you can both hear and see the stream flowing beneath

the ice. A great quantity of border ice is frequently broken up and carried down the stream, which occasionally gets jammed, and the passage is interrupted; the river above then increases in depth, and becomes impassable.

The bed of the Spiti is so deep as to prevent its water being of any assistance to the people in cultivating; they depend entirely upon the small streams from the mountains feeding their kools. On the right bank of the Spiti are immense beds of *débris*, forming plateaux of sometimes two miles in length, and from half to one mile in breadth; a quantity of calcareous deposit has taken place upon the *débris*, and would afford excellent arable ground, but for its aridity, and impossibility of conducting courses to water it: in some seasons when a great abundance of snow has fallen upon the range of mountains immediately above the level ground, cultivation is attempted, but it is very uncertain, and in taking revenue from the country, it cannot be accounted as productive soil.

The probable total length of the Spiti river, from its source to its junction with the Sutlej, may be estimated at one hundred and twenty miles. I am told that fish have never been seen in the Spiti river.

GEOLOGICAL FORMATION.

Physical and General view.—The Physical and Geological account of this country, such as I am able to give, can be embraced in a small compass. The account of the mountains, valleys, and passes will, in fact, explain the physical position.

Gypsum and Alum.—The formations that I have seen, belong wholly to the secondary period: in fact, Spiti may be described generally as being of various kinds of lime and sandstone, with a few slates and shales, and conglomerates. On descending to the bed of the Spiti, after crossing the range which separates it from Kunnâwar, beds of red sandstone are first met with; in connection with these, below Lâre is gypsum, and alum; and, from the water all the way from Lâre to Daukar being saline, I have no doubt but that rock salt may be discovered in the vicinity of the gypsum.

Fossil beds.—These secondary strata contain some excessively interesting fossil beds. The first which I examined are in the Pínú valley, and above the village of “Mekiön;” they are a marine deposit, and

belong to the "Porkilitic" group, being situated between the beds of "lower new red sandstone" and the Magnesian group or dolomitic conglomerate; these again being associated with beds of shale, and mountain lime-stone, point it out as an exceedingly likely locality for coal; the snow however was on the ground and the Thermometer not above 10° in the middle of the day, when I visited the place, so that my observations were unsatisfactory.

The fossil beds of Ammonites are of great extent, varying from the size of a cart wheel, to an inch in diameter: in a very short time I collected as many as two men could carry, and could distinguish as many as six or seven different species of Ammonite, with a variety of other shells, and one or two vertebræ of fish.

Oxide of Iron.—A large quantity of red oxide of iron is found somewhere in the vicinity, which is used by the people for ornamenting their houses, marking their sheep, &c.; this locality, when free from snow, would be worth observing, because beds of this description often overlay silver and lead ores.

Lias and lower Oolitic beds.—The other fossil beds, which I examined, are in one of the lateral valleys near the village of "Gienmul." The formation corresponds with our well known "Lias," and "lower oolitic" reposing on the Lias. The mountain, behind which these beds are situated, is composed of a series of calcareous and sandstone beds, in an almost undisturbed position.

The decomposing Lias, with much indurated mud or clay, and greatly tinged with iron, have greatly the appearance of a coal field, and are on undulating hills; these are filled with ammonites of only one species: the decomposition of this group furnishes the richest ground in Spiti; the soil at "Lidang" and "Lára" seems also to be of this description, but the fossils are not so abundant. The lower oolitic reposes on the Lias, and is composed of rather complicated strata, containing immense quantities of dead shells in a black deposit of extreme fineness; this clay is perhaps an indication of the neighbourhood of coal. I procured a quantity of these fossils, consisting of a variety of bivalve shells, one or two univalves, and varieties of Belemnites and "Orthoceras."

The mountain lime-stone is the most abundant formation in Spiti, and abounds with species of ammonite, Orthoceras, Spirifer, Ters-

bratulæ, &c. &c. ; some of these beds may perhaps be attributed to the primary fossiliferous or "Silurian" group, since they are in a horizontal position, and have never been disturbed since their deposition, and they are a dark gray argillaceous deposit, below which a slaty sandstone is met with ; the fossils generally being, "pentamerus," "tentaculites" ammonites and belemnites—all indicative of the Silurian group.

Soil.—This brief description will so far tend to show that the productive soil of Spiti, is in general calcareous. As far as Lidang it is of a light colour ; from Lidang to Kí, the soil is blackened by the fossils ; and above these places, to the head of the valley, the soil assumes a reddish appearance, from the calcareous soil being more or less mixed with the decomposing siliceous particles of red sandstone.

These soils are all light, and easily turned up by the plough, and should, if properly watered, be highly productive.

Secondary Strata.—It is a fact to be noted, that Herbert in his mineralogical survey of the Hímalaya, travelled as far as the Hungrung pass in Kunnáwar, and leaves it with a remark, that lime-stone is never, in these mountains, a principal formation : now, the principal lime-stone formation is only there beginning, the whole of Spiti may be said to be a lime-stone formation ; likewise, a great part of Lahoul. Herbert also says, after mentioning the formation of gneiss, &c., that "outside of the whole are very limited examples of the secondary strata." Now the secondary strata are of great extent, but not as observed by him. The secondary strata begin at the Hungrung pass, which is a mere spur from higher mountains, chiefly composed of lime-stone and sandstone, as the boulders in the river at Súngnam might have pointed out, but he merely sighted the lime-stone, and drew, in my opinion, an incorrect conclusion.

The Bará Lachá, and many other mountains from 16,000 to 20,000 feet high, are secondary, although certainly very uncommon height for secondary formations : and it will be a natural conclusion that nearly the whole range, bounding the Tartar plains in this direction, are secondary or certainly not older, which would give as great a breadth of secondary as primary formation.

Population.—The five Kotis into which Spiti is divided contain upwards of sixty villages, enumerated in Table No. 1. The whole of

these villages contain only three hundred and sixteen houses, and their population is as follows, the census being from actual enumeration.

Adult males,	-	-	-	-	392
Boys under 12 years,	-	-	-	-	191
Adult females,	-	-	-	-	593
Girls under 12 years,	-	-	-	-	238
Lambas or priests not included above,	-	-	-	-	193
					<hr/>
Total,					- 1,607

giving a total of one thousand six hundred and seven souls.

The population is represented to me as having been on the increase for the last five years.

Revenue.—It is not without some difficulty that I got the people to make me acquainted with the revenues which had been formerly paid, but I believe the following to be pretty correct.

Revenue for 1847-48-49.—The revenue for the years 1847-48-49 has been paid to the Vazir of the Rájá of Busáhir—at least for 1847 and 1848; that for 1849 was tendered to the Vazir, who has since written to me to receive it on account of Government. The revenue paid to Mansúk Dás, the Vazir of the Busáhir Rájá, in 1847, was merely 753 rupees.

In 1848, the same sum was paid, with the addition of 400 lacs* of grain, the produce of some land at Dankar, which was called Sircári.

The revenue for 1849 is still in hand, and is 753 rupees and 500 lacs of grain, now in the fort of Dankar, which will be made over to the Vazir of the Rájá, and 753 rupees, credited to Government.

Mansúka Das, Vazir, made an offer to Mr. Edwards, the Superintendent of hill states, to continue farming Spiti, upon an increased rent of 1,000 rupees, and I believe he recommended to the Board that his offer should be accepted; but I think it very objectionable, for the Spiti people believe that he only took the sum fixed for the three years, with a view of obtaining a longer lease, when they were apprehensive that it was his intention to exact more from them.

The Spiti Vazir holds a paper, written in Thibetan, signed by the late Mr. Agnew, which the people here say is guaranteeing to them that no more than 753 rupees should be levied from them. I have no means

* See page 410.

of testing the truth of their assertion, nor do I know whether Mr. Agnew was authorized to make such an agreement, but I have treated the subject lightly, nor could they have considered it very binding, from the fact of their having paid to Mansúka Dás, in excess of the 753 rupees, grain to the value of 200 rupees or upwards.

Revenue for 1844-45-46.—In the years 1844-45 and 46, the annual revenue paid to the Thánádár at Ladak was 1,031 rupees. Besides this, 100 “Múndís” or iron crow-bars; likewise two Ghoonts, and a nazaráná of 15 rupees annually to the Thánádár, and 60 sheep in jugat.

During these three years the Seiks are said to have further plundered the country of 4,000 rupees, also 60 ghoonts, and much other property.

Revenue from 1839 to 1843.—From 1839 to 1843, both inclusive, an annual revenue of 2,000 rupees was paid to Rájá Goláb Singh.

Besides this, 100 sheep within the five years; and, in 1839, three Ghoonts were presented as nazzars, and one Ghoont annually for the four succeeding years.

Prior to 1839.—Before 1839 the revenues from time within memory, was always paid to the Rájá of Ladak, as follows; 396 rupees in cash, 200 lacs of grain, 100 múndís, 34 pieces of cloth (Barmúr), and 132 shúgús of paper, equal to 660 Hindustáni táktehs. During these years, they also paid annually to the Rájá of Kulou, six rupees, and two pieces of cloth, as tribute. Also to the Rájá of Busáhir 30 pieces of cloth as tribute. And to China (from 50 Chinese families settled in Spiti) about 200 lacs of grain.

This revenue to China has been discontinued for the last 12 years; but, before my arrival, some Chinese were sent from Tolung to demand the ancient tribute.

Demands of the Chinese for revenue.—Since my arrival, Vakíls have been sent to me from Tolung and Chúmúrtí, setting forth their claim to this tribute, but I told them that, as it had not been paid for the last 12 years, and the Company had the means of protecting their own subjects, that I did not think it would be continued; but that as I was not vested with political authority, I would make their request known to my superiors.

This ancient tribute does not appear to have originated with the

Chinese government, but in ancient times there were Tartar hordes upon the border, and the Spiti people appear to have paid this grain to be protected from plunder.

Revenue how hitherto collected.—The revenue of Spiti has hitherto been collected by a Vazir (hereditary); whatever revenue is required has been levied equally from the five Kotis: in the collection, he is assisted by five “Gatpos” or Múkíáhs. The Vazir has hitherto been allowed to pay himself at the rate of one rupee in four, and he holds the village of “Kiúling” in Jághir.

Amount of grain produced, and probable home consumption.—The whole five Kotis contain 2,554 lacs of ground. The probable produce of this land will be 20,667 lacs of grain, and the probable annual home consumption 15,000 lacs; which, deducting 800 lacs for the produce of the Jághir lands, will leave them 4,867 lacs to pay their revenue with; which, roughly calculated, would be about 1,600 rupees, besides the sale of Ghoonts, say 400 rupees, and any tax upon their industry.

Commerce.—The Spiti people are not essentially traders, their country affords but little pasturage, and they have seldom more sheep than to supply their own wants.

Exports.—The exports are confined to grain and a few Ghoonts, together with a few manufactured blankets, and pieces of Barmúr cloth. The return for their grain is salt, and wool. For grain they receive equal weight of salt, and for three lacs of barley they receive eight “kiris” of wool; the kírí is a Chinese weight, and differs from 12 to 16 seers.

Trade with Chinese.—The Chinese are their own carriers: they come to Spiti in November, and take about 1,000 lacs of grain, and a few Ghoonts. The Spiti people say that this trade might be increased. The Chinese do not barter “pashm” or Shawl wool, but take rupees for it.

From the Chinese, the Spiti people buy their sheep, (a very fine description) giving five lacs of grain for one sheep.

Trade with Busáhir and Ladak.—They export to Busáhir about 250 lacs of grain, chiefly to Súngnam, and receive in exchange rupees: the Busáhir people are their own carriers: a few Ghoonts are also sold. To the Busáhir people they also exchange part of the salt they

receive from China, for iron and tobacco, and a small quantity of pashm, about 12 maunds, is also exchanged for iron: if this iron is more than sufficient to supply their own wants, they trade with it to Ladak, or Rúksú, and exchange it for ornaments for their women, and other trifles.

They also exchange about 250 lacs of grain with the Tartars, from Rúksú, for wool and salt.

The usual selling price of grain amongst themselves appears to be from $2\frac{1}{2}$ to 3 lacs of barley, and 2 lacs of wheat for the rupee.

This appears to be their entire trade.

Weights and Measures.—Their measures are of three descriptions, “linear,” “agrarian,” and of solidity.

“*Linear.*”—By the linear measure, cloth is sold by the “háth” as in Hindustan. Wool is sold by what is called a “kírí” or bundle, which differs as to weight, but is two háths in length; this is used in commerce with the Chinese.

Agrarian.—The agrarian measure estimates by the quantity of grain; in Kulu it is “Bhars,” here it is by “lacs,” a lac being 32 catchá seers, or 12 pucka seers.

Capacity and Solidity.—The return of grain sown is 14 to 1 of barley, and from 10 to 12 for 1 of wheat. Gram is sold by the seer of 20 double pice weight; our seer is from 80 to 84 tolas, their seer is 32 tolas.

They have also a small measure called a “Máni” or “Thi,” which is a small wooden cup; this is of two sizes, the one used for buying, called “Chayreh,” holding 29 rupees weight of grain; and the other, by which they sell, called “Guyreh,” which only holds 21 Rs. weight; small articles of value are bought and sold by the barley-corn weight, as a grain of rice is used in Hindustan.

Liquor.—Liquor is measured by the “Puttah” of 2 seers, equal to $\frac{3}{4}$ seer pucka. Their liquor is of one kind, distilled from barley called “Chung,” and is sold 30 “puttahs” for the rupee. They consume large quantities, and one man is said to drink, on occasions of festivity, as much as four puttahs.

Domestic Animals, Cattle, &c.—Their animals consist of Yáks, Jabbús or half Yáks, Cows, Ghoonts, Asses, Sheep, Goats, Dogs, and Cats.

Yâks.—The Yâk is a highly useful animal; with it they plough, carry loads, and it furnishes milk, and hair for their ropes.

In the severest weather, this animal appears to enjoy itself in the snow, and it is often to be seen with icicles, of several inches in length, hanging to its nose, and a foot or more of ice hanging to the hair falling from its neck and shoulders. Long hair hangs over the eyes, and prevents their freezing.

Number of Yâks, Jabbús, Cows and Ghoonts,—Chinese breed. The total number of Yâks in Spiti is 439: and of Jabbús and Cows 412. The Ghoont, although an useful animal, seldom carries any burden but a man; the total number in Spiti is 365, but bred chiefly for sale. They have two breeds, one a small Ghoont, never above 12 hands high, peculiar to the country. The other a large breed of Ghoonts, from 13 to $13\frac{1}{2}$ hands high, is bought from the Chinese, and usually comes from “Chúmúrtí.” For a Chinese Ghoont two years old, they give a four year old Spiti Ghoont. All are equally hardy, and are kept out the whole winter,—all except the yearlings, which are housed. During winter, the Ghoonts live entirely upon the roots of stunted bushes, and are very expert at scraping the snow from off them with their fore feet.

But little attention, except in a few cases, is paid to the breeding of these Ghoonts; a certain number of entire Ghoonts are turned loose amongst the mares, and the sire of a foal is seldom known. Such as are not required for breeding, are castrated when between two and three years of age.

The right of castration has usually been the right of one person, given under a seal from Ladak.

The breed of Ghoonts with a little care might be considerably improved. Many are killed during winter by wolves and leopards, and I saw some which had been much lacerated, but escaped.

Asses.—The ass is also an useful animal, and is of a peculiarly strong breed, not in general large, but with powerful limbs; they are chiefly employed to carry firewood, and are said to be able to go wherever a sheep can: their milk is also drunk. The total number in Spiti is 79.

Sheep and Goats.—The sheep appear to be of two distinct breeds; the common one produces the fine “Biánghy” wool, the other is

a very large species which is brought from "Chúmúrtí" with very long wool, but not so fine as the other.

The goat is of the description which produces the Shawl wool or pashm. The total number of sheep and goats in Spiti is 1095.

The Spiti people are not carriers, or they would have a larger number of sheep. Each village has its three or four dogs, and a very fine black species of cat: these I think comprise all their domestic animals.

Zoology.—I am here at a very unfavorable season of the year to make any observations, either on the Zoology or Botany of the country; in fact, with the latter science I am unacquainted, and, with regard to the former, having been a keen observer through these mountains, I have been struck with but two new species of bird of the genera "Erythrospiza," and "Ruticilla," every thing else that I have seen is well known and described.

Physical constitution, morals, manners, &c. of the people.—The position of Spiti, situated amongst ranges of high mountains, subject to extreme cold, and far from civilization, points out in a degree the physical constitution of its inhabitants.

The Bhotiás are a physically robust cast of people, the climate not being sufficiently severe to impede the vital functions; with strongly marked weather-beaten countenances; of middling height; with muscular body, flat faces and noses, and, in general, small eyes. The natural colour of their skin is a light brown, and the reflection of the sun from the snow gives them a ruddy hue, which is so peculiar to all the race of Butan. Their hair from exposure to the atmosphere is extremely coarse and matted. The women are also very muscular, and all burdens, except in cases of extreme necessity, are carried by them, the men merely ploughing the fields. They are not subject to much disease, and live usually to 70 years of age.

Diseases.—Small-pox is their greatest enemy, which occasionally depopulates whole villages. Stomach diseases are not uncommon and which may be increased perhaps by the entire want of vegetables. Weakness of the eyes is also common. Although depending entirely on snow and ice water, and in a country of lime-stone goitre is scarcely known; one or two cases, they say, may exist in the whole country.

Ages of Marriage.—The common ages of marriage are, with the men, from 20 to 21, and women from 15 to 20.

Polyandrisms.—The abominable custom of polyandrisms prevails, that is, a woman marries a family of brothers.

A man in good circumstances has sometimes two or three wives; but, from the first circumstance, and the priesthood not marrying, the proportion of unmarried females is large.

Slavery unknown.—Slavery is unknown amongst them. They are free in their manners, without being rude, or inquisitive; and have a certain degree of Chinese cunning.

No interest taken for money.—They never take interest for money, but often lend and borrow amongst themselves.

Houses.—Their houses are large and well built, and generally two or three stories high. The first three feet built of stone, and the remainder of sun dried bricks, 18 inches long, 8 wide, and 6 deep, cemented with calcareous mortar. The roofs are flat, with a layer of willow or tamarisk twigs, over which is about 6 inches of earth. On the outer walls are usually deposited grass and wood for winter use, and the houses of the richer zemindars are always distinguished by the neatness with which this is stored. This keeps the snow off their walls. One room in a house is usually 20 feet square, or 24 by 20, the roof supported by a double row of wooden pillars, the architrave being, in the better houses, highly carved in Chinese style, in the form of dragons, &c. The two centre beams, are about 2 feet apart, and over these, to form a ceiling, willow or juniper sticks, peeled of their bark, are crossed, and placed close together giving a neat and cleanly appearance; this however is much destroyed by the lighting of fires in the room, and there being no exit for the smoke, except by the door and some very small windows, which are usually on only one side of the room. The walls are generally washed with a slate-colored marl, and a cornice imitated by a band of white and red, sometimes yellow, made from gypsum, and red and yellow ochre. Generally speaking they are extremely well housed. On the outside corners of the houses are usually erected poles, with a black Yák's tail on each. The whole family live in one house, consisting usually of a grandfather and mother down to the grandson, &c.

Khatak presented, a Chinese custom.—When the parties can afford it, distinct buildings, but close together, are occupied; the grandparents occupying the second best. If they die, the father occupies

his father's quarters, and the younger couple the best. Such are their arrangements. They appear to live happily together, seldom quarrel, and crimes are very uncommon. Their customs are essentially Chinese, and I was always presented with a "Khatak," or white silk scarf, by every head of a village.

Mode of reckoning time.—Their mode of reckoning time is by lunar months of 29 and 30 days alternately, and every three years they add a month to reconcile the motions of the sun and moon. Their present Samvat (Kilí) commenced on the 15th of December.

Mode of detecting crime and oath.—When two parties are accused of crime, an oath is taken in the following manner. The names of each are written on paper or engraved on stone, then wrapped up in flour, and either thrown into hot oil, or water, a person then plunges in his hand, and the first name that comes up is considered the guiltless person.

Petty thefts punished by fine.—Petty thefts are punished by fines.

A person dying without an heir, the personal property goes to the Lambas.

Crimes how punished.—If a woman deserts her husband, and goes to another man, the man pays the expenses that have been incurred by the husband, with an occasional fine, according to circumstances.

Bad crimes, as maiming, wounding or murder, have hitherto been punished by orders from Ladák, generally by the cutting off a hand.

Amusements.—Shooting with a bow and arrow is one of their favorite pastimes; the implements are of Chinese manufacture. A sort of religio-dramatic performance constantly takes place, the actors are Lambas, who repeat religious sentences, and are joined in a chorus by the crowd; on these occasions grain is bestowed, and every donor's name registered in a book kept in the gúmpáh or the kúrdewaráh.

Dress.—All are clothed in woollen coarse cloth and blanket at all seasons, and in winter, a goat or sheep skin cloak reaching from head to near the feet, the hair inside. The women wear a sort of loose wrapper with arms, extending to below the knee, bound round the waist with usually a red coarse shawl of pashm; loose trowsers usually red, which are gathered close below the knee, and stuffed into a pair of cloth leggings attached to a large Chinese shaped shoe, (these leggings answering for stockings,) and tied round the calf of the leg

with a woollen string. The shoe is made large and the vacuum filled with búśá or wool.

Their heads are usually bare, but they have a large moveable ornament made of brass, or sometimes of silver and gold, studded with a variety of turquoises, which extends from the forehead over the parting of the hair, and reaches in a long tail behind. They wear their hair long in a number of plaits. They also wear a variety of necklaces of amber, coral, &c.; and coral earrings and wrist ornaments cut from the chalk shell. No woman is without these ornaments. The higher class sometimes wear a kind of cap made of Kimkhab and trimmed with sable fur, but these are seldom seen; a woman may be said almost always to appear with a bare head: they are in no way secluded, and are free and frank in their manners, and of very cheerful disposition.

The dress of the men much resembles that of the women, but their heads are generally covered with a sheep skin cap, or one of black blanket hanging loose, with a light blue border. Many wear their hair in one long platted tail, with, occasionally, turquoises and corals. They have all a necklace of coarse amber and other beads. They also wear, suspended round their waist, a flint and steel, and round their necks a polished piece of brass which serves as a looking glass, and various charms.

The Lambas have a variety of head dresses, but all in the Chinese style, either a cap or a hat.

Food.—Their food consists almost entirely of a sort of Sattú, made from wheat, barley, or peas. They occasionally eat meat boiled into a soup; and drink quantities of tea, boiled with butter and salt. Yâk's flesh is eaten without prejudice; but, in killing any animal they abstain from shedding blood, and usually strangle. They have no poultry; in fact I doubt if fowls would live. They have not a fruit or vegetable in their country. Turnips, which are cultivated in Kunnáwar, are not seen here. I think that cabbages and beet root might be introduced here with great advantage to the health of the people. Potatoes would not thrive, the cold being too severe. Tobacco is smoked by nearly every man, who has a pipe made of iron stuck into his cammarband, and a leather pouch for his tobacco.

Religious Institutions.—The faith of all the inhabitants of Spiti is "Buddhism." The priesthood form a large portion of such a small

population, there being nearly 200 distributed in the five Kotis. They consist of a Head Gelong, who is their guru or high priest: under him again are five other Gelongs, and all the rest are "Chunbás" and "Cheláhs." The two last or inferior orders can be made here, but a priest must go to Lahassa to be made a Gelong, by the Teshú Lambú. The "Cheláhs" are made indiscriminately from the peasantry. In Spíti there are five Gumpás or Thákúrdewaráhs, each having its Gelong. All these are under the orders of the Teshú Lambú at Lahassa. The priests must either be clothed in red, or yellow, and on no account wear white; their head dresses are very various. They are strictly prohibited from exercising any other functions but those of religion. They are entirely supported by the people, and they collect grain for their support at harvest time from the people; they have a store room to each Gumpá. The Chinese families settled in Spíti are called "Chuji," and they present annually, 200 lacs of grain to the head Gumpá. The priests are prohibited from marrying; if they do, or are known to have connexion with a woman, they are beaten and dismissed from the order. There are however two sects of Lambas; one called "Neingmá" answering to the Byrágis of Hindustan; who though not allowed to marry, are allowed to keep women; there are only 13 of this sect in Spíti.

The other sect is the "Gilopá" who represent the Sannyásies: they consider themselves defiled if they touch a woman. The "Neingmá" sect generally wear long hair, and the other short. They dispute with one another as to their superiority of learning.

The priest attend at births, marriages, and deaths: at a birth, several priests are called, who go through a ceremony of astrology predicting the fortune of the child, and receive presents.

Parties are married by a guru in the open air, when prayers are read; the tilak is then marked on their foreheads, they have "Khataks" (white silk scarfs) given to them by the guru, when they get to their house, and he departs with presents. At a funeral a Lamba attends whilst the body is burnt. The guru and other priests then attend, and presents are distributed. The ashes are thrown into a river, and the place where they were burnt, heaped over with cow dung and clay; and, if the friends of the deceased can afford it, a monument is erected in the shape of an urn. There are no nunneries or nuns in Spíti.

They believe in one God Supreme, but have a variety of inferior divinities, which are represented in their temples. Prayers and charity are, in their estimation, sufficient to ensure happiness in another world.

They believe in various births hereafter: that a man's span in this world is 70 years: but in the second it will be 60, the third 50, and so on till 10, when a man is only to be a háth ($1\frac{1}{2}$ ft.) in height. They believe in many yugs; they say that only three have arrived, and that nine hundred and ninety-seven are yet to come. Metempsychosis forms a part of their belief, but they are not explanatory on the subject, and say that only the Teshú Lambú can explain it. It is rather extraordinary with this belief that they should eat the flesh of animals, which they will not kill, but receive to be eaten when they have been killed, or have died. The store-house of the Gumpá has a large supply of dried dead animals, and pieces of flesh strung and dried.

Once a month, the whole of the priests assemble for general prayer, it is first read by the Gelong, and repeated by all the rest. Their most remarkable festivals are usually at the full moon.

This is all the information which I have thought it necessary at present to collect, regarding their religious institutions and customs. The Lambas are quiet and inoffensive, and much respected by the people generally.

If the country is highly taxed, it will be necessary to make some provision for the priesthood in the shape of Jáhír.

Lahassa is called by the people here "Chotá Chín," and the country between Lahassa and Mánassarovar or "Mantaloi," is called "Guari." China Proper is called "Gynuk." The country of Little Thibet is called "Bálti," or that portion above Cashmere, &c. The Ladak country goes by its own name.

Climate.—Having no Barometer with me, I am unable to ascertain the atmospheric pressure, but with a Thermometer only graduated to Zero, I have, as regularly as I could, taken the temperature of the air since my arrival; always morning and evening, but being generally on the march at mid-day, I have not often been able to ascertain it at that time. I give in a table (No. 2) the range as observed, which will point out the winter climate as being very severe. The diminution of atmospheric pressure is inimical to the growth of trees, and there are only to be found a few stunted trees of "Juniperus excelsa" and willows.

The prevailing winds are from South to East, and at times very high, and the greater portion of the tops of the higher mountains have all the snow swept off by the wind. I remark particularly in Spiti, what struck me so much last July in Lahoul, and especially North of the Bará Lachá, that the soil gives out much heat by radiation. The want of heat and atmospheric pressure are, in these regions, greatly against vegetation.

Having given a succinct account of this country and its people, I may sum it up by saying, that Spiti is a mass of nearly bare rocks, with here and there small patches of cultivation, almost entirely without trees, thinly populated, and small villages, the largest not having above 25 houses. The table which I annex will give the number and houses of the villages.

I have now but to add a sketch map of the country, such as will afford a reference to villages. I do not profess to give the mountains in their proper form or distinct ramifications. I have taken regular angles; but, without a protractor, cannot lay them down; besides, that task has most likely been already done, and much better done than with my opportunities or resources, I could hope to perform it.

Conclusion.—I trust that any deficiencies in this report will be excused. I have no proper paper; my hands are so benumbed with cold, that I can with difficulty write, and the ink freezes in my pen at every two or three words. I have had no books or maps to guide me, and am in perfect ignorance of any thing that may have hitherto been written: all is from my own unguided observation. I should, upon the whole, say that the country is in a prosperous state, the people are well housed, well clothed, and possess an abundance of food, such as they are accustomed to: they are contented and happy, with principles of order and industry; and, with a moderate taxation, I think they will prove good subjects, and useful and beneficial to the Government to which they are now annexed.

Having thus stated facts, which I was alone ordered to collect, with a view to enable a future settlement to be made, however incomplete these may be, though collected to the best of my ability, I trust that my superiors will be able to form a judgment both of the country and its people.

(Signed) W. E. HAY,
Assistant Commissioner.



TABLE NO. 1.

List of the Kotis in Spiti, with the Villages, and quantity of land under Cultivation.

<i>Names of Kotis.</i>	<i>Names of Villages.</i>	<i>Quantity of land cultivated.</i>
Shámpáh,	Seri,.....	41 Lacs.
	Fokpáh,	37 „
	Omarungpá,	4 „
	Mániyugmá,	120 „
	Mánikugmá,	97 „
	Dankar,	107 „
	Sircári land at Dankar, ..	35 „
	Chunchugmáh,	1 „
	Ludupding,.....	2 „
	Nagupar,.....	1 „
	Rámá,	8 „
	Lidang,	6 „ 10 patas.
		<hr/> 459 10 <hr/>
Pinu or Pinpa,.....	Tungtuyugmá,	51 „
	Tungtu Kugmá,	21 „
	Silung,.....	25 „
	Kuling,	46 „
	In Jagir to Tunjun Shu- pal,	11 „
	Jhutá,.....	16 „
	Parh,	68 „
	Kungri,	45 „
	Sunglum,.....	84 „
	Khur,	56 „
	Tiling,	45 „
	Bhugjung,	8 „
	Tudnum,.....	22 „
	Mudh,	37 „
	Shung,.....	2 „
	Chudung,	8 „
	Akchi,	2 „
	Mikam,	3 „
	Chomuling Kugmá,	2 „
	Mikam Yugmá,	2 „
	Dhunja,	3 „
	Halungchi,	4 „
	Yunum,	2 „
	Chomuling Yugmá,	1 „
		<hr/> 564 „ <hr/>

<i>Names of Kotis.</i>	<i>Names of Villages.</i>	<i>Quantity of land cultivated.</i>
Purchikpah,	Lilung,	118 Lacs.
	Gienmull,	92 „
	In Jagir to Kulzung,....	12 „
	Chubrang,	4 „
	Sanglööá,	4 „
	Lerá,	57 „
	Kájeh,	80 „
	In Jaghir to Nunáo Kul-	
	zung,	10 „
	Quong,	16 „
	Küiling in Jagir to Nunu	
	Kulzung the Vezir,....	36 „
		<hr/>
		429 „
		<hr/>
Potepáh,	Rangrik,	149 „
	Chikim,	100 „
	Kibar,	182 „
	Kiotu,	40 „
	Sumling,	36 „
		<hr/>
		507 „
		<hr/>
Chujeh,	Tungpá langchi,	65 „
	Echim,	48 „
	Yulelúm,	31 „
	Kumik,	58 „
Half of Lidang is in the Shámpáh Koti }	Lidang,	27 „
	Tabá,	33 „
	Kurik,	61 „
	Ki,	42 „
	Géoti,	7 „
	Munni,	14 „
	Ull,	50 „
	Pagmu,	19 „
	Chikzá,	3 „
	Hansi,	62 „
	Kaõmá,	13 „
	Lohsaz,	60 „
	Kolakzuz,	2 „
		<hr/>
		595 0

Total in the 5 Kotis, .. 2554 10 or Bhars 319288 patah.

TABLE NO. 2.

Range of Thermometer in Spiti from the 9th December, 1849, to the 15th of January, 1850, exposed to the Sun.

Date.		At 6 A. M.	Noon.	6 P. M.	
December, 1849,	9th	14	48'	24'	Snow.
	10th	14	not observed	23'	
	11th	17	"	22'	
	12th	10	72'	18'	
	13th	6	74'	20'	
	14th	10	63'	16'	
	15th	6	"	17'	
	16th	4	"	14'	
	17th	12	"	21'	
	18th	14 Cloudy	34'	18'	
	19th	13	"	21'	Snow.
	20th	12	"	19'	
	21st	11	58'	25'	
	22nd	13	68'	22'	
	23rd	14	"	24'	
	24th	14	"	20'	
	25th	6	32'	20'	
	26th	6	"	14'	
	27th	4	"	24'	
	28th	4	"	12'	
	29th	at Zero.	"	18'	
	30th	18	"	22'	
	31st	12	"	6'	Snow.
January, 1850.	1st	at Zero.	"	6'	
	2nd	12	"	6'	
	3rd	14	30'	14'	
	4th	13	28'	18'	
	5th	10	29'	13'	
	6th	at Zero.	46'	12'	
	7th	8	56'	13'	
	8th	13	23'	11'	
	9th	6	24'	18'	
	10th	18	28'	16'	
	11th	15	27'	13'	
	12th	14	22'	7'	
	13th	at Zero.	53'	11'	Fair.
	14th	6	56'	10'	
	15th	4	20'	10'	
	16th	2	20'		

True Copy.

(Signed) D. F. McLEOD,
Commissioner and Superintendent,
Trans Sutlej States.

True Copy.

P. MELVILLE,
Secretary to the Board.

Examination of the New Mineral HAUGHTONITE (a compound of Carbonate of Lead and Sulphate of Barytes).—By HENRY PIDDINGTON, ESQ. Curator, Museum of Economic Geology.

Amongst a few common rocks and minerals presented by Lieut. Haughton, Assist. to the G. G. Agent N. W. Frontier, on his departure for the Cape, I found a coarse, dirty-white, earthy looking mineral, which, judging only from its weight, might be taken for either an ore of lead or one of barytes, but on examination it proves to be a compound of both which I nowhere find described, and I thus deem it due to Lieut. Haughton to put upon record my examination of it, in hopes that we may in future obtain more and better specimens so as to enable us to pronounce more positively upon it than we can now do.

Our specimen is apparently the remains of an oblique rhomboidal table, much broken down by exposure to the atmosphere or to the action of water, and decomposing externally.

Its *external* colour, feel, soiling, and hardness when scraped, are exactly those of an impure earthy chalk; but in our specimen there are set numerous minute nodules (not exceeding a hemp seed in size) of a harder kind of the same mineral, and when a surface is scraped these shew a dull clayey shade, as if they were nodules of hard clay, though they are not so.

Its fracture, seen on a very small surface, is coarse hackly, and it is of some considerable toughness. It shews also in the fracture thin brown coloured veins, such as are sometimes seen in common earthy iron ores from vegetable matter.

It is externally very friable and soiling. It adheres a little to the tongue and feels heavy. The internal colour is that of a dull dirty fawn-coloured claystone, the lustre earthy, but perhaps in a strong light a little saccharine.

The smell is very remarkable, being oily and rancid, as if oil had been spilled upon it, and this especially when it is pulverised or heated high enough to drive off the water.

The powder is of a dull, yellowish-white colour. The external chalky surface then, is that of the decomposed mineral, which in some parts is 0. 2 or 0. 3 of an inch in depth. Its specific Gravity is but

3. 43 ; but it is apparently cellular, and if allowed to imbibe water for a few days might give a higher one.*

Blowpipe Examination.

In the forceps it blackens, softens and sometimes exfoliates a little, or a piece flies off. The most remarkable characters are the blackening and softening, by which last the points of the forceps are deeply impressed into the assay.

The blackened assay affords no trace of a sulphuret, and in the reducing flame the blackness soon goes off, leaving the whole mineral of a dirty greyish-white. It just fuses on the edges only, to a white enamel, like common heavy spar.

With Carbonate of Soda on charcoal, the usual brown sulphuretted bead of the sulphates, with their smell, &c. is immediately obtained.

With Borax a clear glass.

Via Humida.

Digested with Nitric Acid it effervesces slowly, and the filtered solution, when tested, gives the usual re-actions of lead, with a little iron ; the lead perfectly well marked by Chromate and Hydriodate of Potash as also by sulphuretted Hydrogen. The greater part of the assay however remains upon the filter, and this, when fused with the Carbonates of Soda and Potash, gives Sulphuric Acid and Carbonate of Barytes.

By the only analysis for which I could afford an assay from so small and precious a specimen, I find it to contain

	per Cent.
Sulphate of Barytes,.....	83.52
Carbonate of Lead,	6.23
Oxide of Iron, .....	.75
Water, Organic matter† and loss,	9.50
	<hr/>
	100.00

* Which I would not risk lest it should fall to pieces, which its earthy chalk-like texture renders probable.

† As inferred from the blackening and smell, but this is by no means certain, as we have minerals in which blackening takes place from the mere separation of water or even without it ; but the high per centage of the water, after the usual drying for mere Hygrometric water, would induce the belief that something more existed.

But these are only to be taken as approximative quantities, for the specimen, from its blackening which takes place in the crucible when the lead has been separated, evidently contains some peculiar matter, and the quantity of water which rises as it approaches the low red heat at which the blackening goes off is very remarkable.

As above mentioned, we cannot afford to sacrifice any more of this curious specimen for examination, and I should moreover remark that a portion of the external decomposed white crust was unavoidably taken in the analysis made. We have a right however to claim the discovery of it for Lieut. Haughton, and I have therefore named it, provisionally, HAUGHTONITE.

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*Note on an Inscription engraved upon a brick, found some years ago in a field near a village in the Jaunpur district by Captain M. Kittoe, with a transcript from the original by Hiránand Pandit, and a translation by James Ballantyne, Esq. L. L. D., Principal of the Benares College.—By Captain M. KITTOE.*

*Sanskrit.*

सस्ति सम्बत् १२७३ आषाढ शुदि ६ रवौ । अद्येह मयूनगर्यां धनि  
कौ नाम्ना मतौ । राश्रीकक्षौ राश्रीमहादित्यौ । राडोविसुतौ स्वधनं  
प्रयुञ्जाते । अतस्सकाशाद्वारणिको नाम्ना मतः । रागंगदेवो राधानुसुतः  
षडोदिकद्रस्मसहस्रद्वयसार्द्धशतद्वयं गृह्णात्युद्वारेणाङ्केपि द्र २२५०  
अमोषां द्रम्माणां विश्वासार्थं च प्रवापिणीस्वकपट्टिकावन्धके प्रदत्ता ॥  
अस्मिन्पत्रे चोद्वारणिकहस्तेन स्वमतं मारोपयति मतं मम । अत्राप्नो  
राणकश्रीवाघदेवः ॥ राजोपरोक्षेण रादेवादित्य राधौरि राकुमनपाल  
राविलास राप्रजयन् एते साक्षिणः कृताः पूताश्च लिखितं चेदमुभ-  
यानुमतेन ढिवाश्रीसीढलेन ढिवाहाटपुत्रेण दिग्धाक्षरमबिवृताक्षरं  
वा ततोपि प्रमाणमिति ॥

*English Translation.*

May it be auspicious! In the year (Samvat) 1273 (A. D. 1216), on Sunday, the 6th of the light half of Ashád, this day, here, in the city of Mayu, the two bankers known by the names of Rá Sri Bahma and Rá Sri Maháditya, the two sons of Rá Dovi, are turning their money to account (as follows). The borrower from them, known by

the name of Rá-Gaugádéva, son of Rá Dhamí, takes as a loan two thousand two hundred and fifty Shadboddika (?) drummas—(in figures) 2,250; and as security for these drummas, he gives in pledge his cultivated and other lands. And on this deed (inscribed brick), by his own hand, the borrower places his assent thus—“This is my agreement.” The surety, in this case, is Ranuck, Sri-Bághadeva, such a one as a king might be content with;—Rá-Devaditya, Rá-Dhauri, Rá-Kumanapála, Rá-Vilása, and Rá-Prajayan—these are made witnesses—worthy men. And this is written, with the consent of both parties, by Dhivá-Sri-Sidhaal, son of Dhivá-Háṭa. If the letters get smudged or obliterated, still the matter can be certified by these (i. e. by the writer and the witnesses),

*Note.*

The above inscription, which may not be considered altogether as uninteresting, is engraved on a large brick 1 ft. 3 in. by 1 ft. ; 3 in. in thickness. It is not an ordinary brick, but evidently made for the purpose; the writing has been done with a style when the clay was still damp, and has then been baked; but being of a soft clay and indifferently burnt, many of the letters have been much worn: yet, it is for the most part sufficiently clear to admit of its being easily made out. The character is that peculiar to Rájá Jayachandra's time, differing but slightly from modern Deva Nágrī, with the vowel marks of *ai* and *ao* carried behind the preceding letter as in modern Bengali; for instance ऐ is written (ऐ, and औ is written (औ. This peculiarity may be taken as a fair guide for fixing the approximate date of inscriptions in which dates are wanting; it appears to have fallen entirely into disuse in the latter part of Rájá Jayachandra's reign. But to return to our brick, I have heard that such are not of uncommon occurrence in this neighbourhood; but I have failed in obtaining any other specimen, and it was not without difficulty I procured this, as a superstitious veneration is attached to them simply because few can read and less understand them. They are generally supposed to be keys to hidden treasure.

The simple publication of the text and translation of an ancient inscription would at first appear to be of little moment—but the contents must be considered, and deductions drawn therefrom, which is the plan I have hitherto adopted. First then, we have a clear date, viz,

Samvat 1273 or A. D. 1216 ; the character is, as I have above mentioned, the nearest approach to modern Deva Nágri, the last shade of transition from the "*Gowr*" or "*Kútila*" of the inscriptions of the 9th and 10th centuries. No deity in particular is here invoked, by which we could speculate upon the creed of the parties concerned, or of the prevailing worship of the day—but the prefix is the mystic "*Aum.*" So that we may suppose them to have been Saivas, though it is not confined to them only. I should mention that inscriptions of this period have often the indefinite salutation of "praises be" and "praises be to whomsoever." From this it may be inferred that at that period, public opinion was divided as to which should prevail of several creeds. In Jayachandra's time the Buddhists were greatly persecuted, *ergo* they must have existed (probably in large numbers at so late a date, though the orthodox Hindus would deny this fact.)

We learn further from this inscription that the usage of mortgages prevailed as early as the 13th century, and that engraving the deeds, and probably burying the same in some spot on the land mortgaged, was common ; the form is simple, and bears the stamp of honesty ; it is drawn up, signed, and agreed to, before witnesses, and securities furnished for the fulfilment of the agreement. No registry is mentioned, though such a practice, at courts, prevailed as far back as the 4th and 5th centuries : two such documents engraved on copper are in my possession. If the registry was made on bricks of the same bulk as that of the subject of our remarks, the Registrar would soon have had materials to build a house with.

We learn that the currency was termed "*drummas*," in this instance "*Shadboddika drumma* ;" but the meaning of the term cannot be made out by the pundits, who suggest that a "*drumma*" must be some given number of cowries, such as the "*gandús*" and "*chaddúms*" of modern times.

We are indebted to that talented scholar, Dr. J. Ballantyne, Principal of the Benares College, not only for the present translation, but for several others of lengthy inscriptions, from Gayá and other places, which I hope to lay before the Society at an early date ; and I must here also acknowledge the services of pandit Hiránand, also of the College, who is the only one who has been successful in decyphering ancient characters.

K. M.

*Answers to Mr. Piddington's Query about Winds, Storms &c. in Thibet, by A. CAMPBELL. ESQ. M. D., Superintendent of Darjeeling.*

*To the Secretary of the Asiatic Society, Calcutta.*

*Darjeeling, Oct. 1st, 1850.*

DEAR SIR,—In the third number of the Journal for 1850, there is a Memorandum, by Mr. Piddington, on the storms of wind experienced in Tartary, with a series of questions regarding them, to which he wished to have had replies from the late Thibet Mission.

The replies, if procured by the mission, have not been published. The mission however made its observations in Western Thibet only, having been foiled in its Eastern progress. It will therefore be the less necessary to apologize for intruding on the Society with a few imperfect replies to those questions, having reference to Eastern Thibet, the Southern out-skirt of which I visited last October, in company with my friend Dr. Hooker. The following replies are a running answer in regular sequence to as many of the 37 questions of Mr. Piddington as I have notes or other means of dealing with. The person alluded to as my informant, and who experienced a severe storm in Thibet, is a Bhotia friend of mine, who accompanied Dr. Hooker and myself on our journey, and is a very credible person. It was at Dochen, 32 miles from Phári\*, that he encountered the gale, and the date of its commencement was the 7th of Mágh, Samvat, 1903. January 19th, A. D. 1847.

The portion of Thibet to which the replies refer, is composed of two extensive provinces and the trans-Himalayan tract of Dingcham; viz. "U" or "Oo," and "Chang," in some maps put down unitedly as U-Chang, in others as Utsang. "Oo" is the Eastern Province, with Lassa as its principal city. "Chang" the Northern and Western one, with Digarchi and Giangtchi as its principal towns. The mean elevation of these provinces is unknown. The cultivated portions may be 14,000 feet, for at 16,000 feet in Dingcham, wheat does not ripen. The district or tract named Dingcham lies along the Northern aspect of the Himálaya, extending from Tawang on the East, to the Meridian of Jumlá on the West, an extent of 360 miles or thereabouts. It comprises Phári, Dochen, the Ramchú Lakes from which the Painom river rises, Bumtso, Gerre, Kambajong, Dobtá, Sareh, and the Tingri

\* For these places see Route to Lassa, J. A. S. for 1848.



Maidan. The mean elevation may be 16,000 feet. Bumtso which is an easy ascent, and does not by any means appear as a mountain in Dingcham, was reckoned by Dr. Hooker, by rough calculation of Barometrical observations to be 18,400 feet above the level of the sea. When we were at Bumtso on the 18th of October last, the Thermometer at 11 A. M. in the open air stood at 44°, the wet bulb at the same time being at 22° on the night before; in the vicinity of Chólámú 17,000 feet, the temperature fell to 5°. These particulars relating to the "elevation, cold, and dryness of the air" on which stress is laid by Mr. Piddington in connection with his questions, were given to me by Dr. Hooker on our journey, and are subject to his corrections when his meteorological observations are worked out.

Your's very truly,

A. CAMPBELL.

*Answers to Mr. Piddington's Questions about Winds, Storms, &c. in Thibet, by A. CAMPBELL, M. D. Superintendent of Darjeeling.*

The names by which the different kinds of wind are known in Thibet, are "Babink"—violent storms or whirlwinds; "Lhapa," a storm or whirlwind of less degree; "Lúmbú," ordinary wind. These are Thibetan names indicative of different degrees of intensity in the wind, and have reference to their character only—not to their effects, on objects. The "Babiuk" is generally preceded by a noise resembling the clatter of galloping horses which intermits: it comes on sometimes quite instantaneously, and lasts for all periods from an hour to three days. It has been known to last for seven days even. Storms occur but rarely between May and October, but frequently during the remainder of the year. The general direction of storms is from the West and South West, and so it is indeed of the ordinary wind also. The whirlwinds have not been observed to have any general direction onward, nor is it known which way they turn. They form suddenly on the open places, and mountain passes; the traveller sees the column of dust afar off; if on horseback he instantly dismounts, and crouches to the lee of his beast; if on foot he throws himself on his face on the ground, till it has passed over him. Dust, dry grass, pebbles, and even stones are taken up and carried in these whirlwinds, which are very frequent, and never accompanied by rain or snow. The god of the winds is named "Lúmlá" or "Lúnglá." The god of fire "Meh-lá." The god of



water “Chú-lá.” The god of earth “Sahila-mú.” There are no temples to, or images of, the spirit of the winds, but he is worshipped, and propitiatory offerings are made to him. All sicknesses are supposed to proceed from the gods of the four elements, or to be influenced by them, viz. earth, air or wind, fire, and water; and they are propitiated accordingly with reference to the ailment. The spirit of the winds is invoked in all affections of the breathing or chest; the god of fire in fevers and inflammations; the “Chúlá” in all affections of the fluids, such as dropsy, retention of urine, hemorrhages; and the god of earth in diseases of the solids, such as rheumatism, tumours, &c. In other diseases not distinctly referable to any one of these four deities, or to the elements over which they preside, the Lamas are first consulted, and as they may indicate, so is the deity to be worshipped.

Sacrifices are not performed in any part of Thibet, either to deities or demons. The propitiatory offerings are merely balls of flour, and water, and are cast away, when offered. Storms always begin in the West, and blow from the same quarter all through, changing only a little to the South or North. They are not supposed to be at all influenced in their occurrences by the time of the moon, as they occur at all periods of her increase and decline. It cannot be ascertained how often they occur in the year, as periodical gales like our equinoctial ones in India, seem not to be reckoned on; but once in 5, 7, or 9 years, there are many tremendous storms in Thibet, accompanied by heavy snow, when great loss of life is sustained. These storms are called “Kang-mo-chi.” There was one in January, 1847, in the district of Dingcham.\* They are accompanied by hail when they occur in the spring. Travellers and horses are suddenly overwhelmed in the snow storms from the enormous drift. This occurs principally at the passes of the Himálaya, and sometimes in crossing the Karúlá, and Kambolá ranges. They are generally preceded by peculiar appearances of the clouds which experienced travellers know at once, and no one else can distinguish. My informant experienced one of these storms and describes it as follows,† “I was fortunately in a house when it commenced; it lasted two days and two nights; it was most violent during the day, and moderated each night about 11 or 12 o’clock, going on again from daylight with increased intensity until noon when it was at its worst, and about two

\* See preceding letter.

† On the 19th January, 1847.

hours afternoon, on the second day it began to decline. It blew from the west and south-west." Tame animals are often killed in these storms. The wind destroys their eyes, and they lie down to die. The Kiang wild ass seems to resist their effects better than other wild animals, many of which are often found dead after they subside. There is no thunder or lightning either before, during, or after the greatest winter storms. In the lighter ones which occur in April and May, there is occasionally some thunder; but thunder is rare in Thibet. Storms are most violent in mountain passes; but in the open places they are very bad also. They are most violent in the district of Dingcham, less so in the Province of Chang, least so in "U" or "Oo"—indeed at Lassa, the capital of Province U, storms are very rare. No volcanoes are known in eastern Thibet, nor are there any other phenomena referred to, as accompanying the storms. The district of Kampá, a portion of which lies between the Provinces of "Chang" and "U," is next to Dingcham for storms, and the "Karooa" range which divides these two Provinces and is crossed on the road to Lassa, is the worst and most dangerous place for storms in all Thibet; but it is not so bad as the Dawkia, or Tunkala passes of the Himalaya, where the snow falls much faster and heavier than on any Thibetan mountains.

A. CAMPBELL.

*Note by Mr. PIDDINGTON.*

This note of Dr. Campbell's is of very great interest, affording us, as it does, a fair field for surmise that the inland storms of Thibet, and probably therefore those of Tartary and Siberia, may be, as conjectured, parts of revolving storms.

For if we take the Northern boundary of the Chang country (called Z'Zang in a French Atlas of 1840 before me) to be in about Lat  $31^{\circ}$  North, a revolving storm of which the centre was passing between  $31^{\circ}$  and  $35^{\circ}$ , or more North, would give Westerly gales to the whole district of Chang, and if these began at W. S. W. and veered to West and W. N. W. then the track would be from the Westward to the Eastward. If however we take the Bhotia's description to have literally and exactly given the veering of the wind "from the West and South West" then the course of that storm was *from* the E. N. E. to the W. S. W. Its great duration was owing to its slow motion or to its extent. The Bhotia's statement that the "Babink" or violent storm or whirlwind, "is generally preceded by a noise resembling the clatter of galloping horses which intermits," fantastic as it at first sight appears to us, is exactly in other words the Chinese fisherman's atmospheric warning noises as described by Dr. Morrison, and quoted by me.\* "Slight noises heard at intervals a few days before, wheeling round and stopping quick, and also a thick muddy atmosphere," and with allowance for the difference between the open atmosphere of the sea and the mountain ranges of Thibet, the "distinct roar of the elements, as of winds rushing through a hollow vault" described by Mr. Gittens of Barbadoes, and quoted in Col. Reid's work, and probably also the "moaning noise" which has been several times very distinctly heard and noticed by good observers at Calcutta, in the Phillippines, at Baticolo and in the Southern Indian Ocean on the approach of a Cyclone.

\* Sailor's Horn Book, p. 245, 2nd Ed.

*Aborigines of the South. By B. H. HODGSON, Esq., Darjiling.*

| <i>English.</i> | <i>Malabar.</i>                                  | <i>Singalese.</i>                        |
|-----------------|--------------------------------------------------|------------------------------------------|
| Air,            | Akayam,                                          | Hulanga.                                 |
| Ant,            | Erumbu,                                          | Kúmbeyá.                                 |
| Arrow,          | Ambu, Kanri, At-thiram, Pasam,                   | Sare ; 'or Iyá.                          |
| Bird,           | Kuruvi, Pullu,                                   | Kurullá.                                 |
| Blood,          | Irat-tham, Uthiram, Kuruthi,                     | Lé.                                      |
| Boat,           | Thoni, Odam, Morak-kalam,                        | Arua.                                    |
| Bone,           | Elumbu, At-thi,                                  | Átá.                                     |
| Buffaloe,       | Erumei,                                          | Miharaká.                                |
| Cat,            | Púnei,                                           | Balalá.                                  |
| Cow,            | Pasú, Au,                                        | Eladena, [gawa, is<br>the generic term.] |
| Crow,           | Kákam, Kakkei,                                   | Kaputá, kakká.                           |
| Day,            | Naul, Thenam,                                    | Dawasa ; diná.                           |
| Dog,            | Noy, Suvanam,                                    | Ballá.                                   |
| Ear,            | Káthu, Sevi,                                     | Kana.                                    |
| Earth,          | Púmi, Puvi, Prithivi, &c.                        | Polawa.                                  |
| Egg,            | Muttei, &c.                                      | Bijja.                                   |
| Elephant,       | Yanei, Kunjaram, Varanam,                        | Atá.                                     |
| Eye,            | Kan, Vilzi, Net-theram,                          | Aha.                                     |
| Father,         | Tahappen, Pitha, Thathei, Thanthei, Piyá ; appá. |                                          |
| Fire,           | Neruppu, Thee, Kanali, &c.                       | Gini.                                    |
| Fish,           | Meen, Matcham,                                   | Matsia.                                  |
| Flower,         | Poo, Putpam,                                     | Mal.                                     |
| Foot,           | Kál, Pátham, Thál, Ade,                          | Paya.                                    |
| Goat,           | Adu, Velladu, &c.                                | Eluá.                                    |
| Hair,           | Mayir, Romam, &c.                                | Kes.                                     |
| Hand,           | Kai, Karam, At-tham,                             | Ata.                                     |
| Head,           | Thalei, Siram, &c.                               | Olua.                                    |
| Hog,            | Pandi, Súkaram,                                  | Oorá.                                    |
| Horn,           | Kombu, Kódu,                                     | Anga.                                    |
| Horse,          | Kutherei, Pari, Asuvam,                          | Aswaya.                                  |
| House,          | Vídu, Manei, Illam, Akam,                        | Geya.                                    |
| Iron,           | Irumbu,                                          | Yakada.                                  |

| <i>English.</i> | <i>Malabar.</i>              | <i>Singalese.</i>   |
|-----------------|------------------------------|---------------------|
| Leaf,           | Ilei,                        | Kolé.               |
| Light,          | Velicham,                    | Eliya.              |
| Man,            | Manushen, Adaven, &c.        | Minihá.             |
| Monkey,         | Kurangku, Manthi,            | Wandara.            |
| Moon,           | Melavu, Chananderan,         | Sanda.              |
| Mother,         | Thai, Matha, Annei Annei,    | Amma.               |
| Mountain,       | Malei, Vetpu, Meru,          | Kanda.              |
| Mouth,          | Vái,                         | Kata.               |
| Moschito,       | Vísei, Melvísei,             | Madurua.            |
| Name,           | Pér, Namam,                  | Nama.               |
| Night,          | Iravu, Irattiri, Al,         | Rae.                |
| Oil,            | Ennei, Thylam,               | Tel.                |
| Plantain,       | Válei,                       | Kesel.              |
| River,          | Yáru, Kangei,                | Ganga.              |
| Road,           | Theru, Vithi, Valzi,         | Pára.               |
| Salt,           | Uppu, Lavanam,               | Lunu.               |
| Skin,           | Thól, Tholi,                 | Hama.               |
| Sky,            | Vánam,                       | Ahasa.              |
| Snake,          | Pámbu,                       | Sarpaya.            |
| Star,           | Natehettheram, Velli, &c.    | Tarawa or tárakáwa. |
| Stone,          | Kallu,                       | Gala.               |
| Sun,            | Veyil, Poluthu,              | Súrya.              |
| Tiger,          | Puli, Vengei,                | Wayággraya.         |
| Tooth,          | Pallu,                       | Datha.              |
| Tree,           | Maram,                       | Gaha.               |
| Village,        | Kurichi, Keramam,            | Gama.               |
| Water,          | Thannír, Nír, Salam,         | Watura.             |
| Yam,            | Kilangu,                     | Ala.                |
| I,              | Nán, Yán,                    | Mama.               |
| Thou,           | Ní, Nír,                     | Tó.                 |
| He, She, It,    | Avan, Aval, Ah thu, or Athu, | Ohu, aé, éka.       |
| We,             | Nám, Nángal,                 | Api.                |
| Ye,             | Nñugal,                      | Topi.               |
| They,           | Averkal, Avei,               | Owun.               |
| Mine,           | Ennudeyathu, Enathu.         | Magé.               |
| Thine,          | Ummudiathu, Umathu,          | Togé.               |

| <i>English.</i> | <i>Malabar.</i>             | <i>Siagalese.</i> |
|-----------------|-----------------------------|-------------------|
| His,            | Avanudeyathu, Avarudeyathu, | Ohugé.            |
| Our's,          | Engaludeyathu, Emathu,      | Apé.              |
| Your's,         | Ungaludeyathu, Umathu,      | Topé.             |
| Their's         | Oné,                        | Owngé.            |
| One,            | Ondu, &c.                   | Ekay.             |
| Two,            | Irandu,                     | Dekay.            |
| Three,          | Múndu,                      | Tunai.            |
| Four,           | Nálu,                       | Hatarai.          |
| Five,           | Inthu,                      | Pahai.            |
| Six,            | Aru,                        | Hayai.            |
| Seven,          | Elu,                        | Hatai.            |
| Eight,          | Ettu,                       | Stai.             |
| Nine,           | Onpathu,                    | Nawayai.          |
| Ten,            | Pat-thu,                    | Dahayai.          |
| Twenty,         | Irupathu,                   | Wissai.           |
| Thirty,         | Muppathu,                   | Tihai or Tis.     |
| Forty,          | Nátpathu,                   | Hatalehai.        |
| Fifty,          | Eympathu,                   | Panahai.          |
| A hundred,      | Núru,                       | Seya-yai.         |
| Of,             | In, Udeya, Thu,             | Caret.            |
| To,             | Ku,                         | Tá.               |
| From,           | Al, Irunthu,                | Gen.              |
| By, instr.      | Kondu, Al,                  | Wisin.            |
| With, cum.      | Udan, Odu, Idat-thu,        | Samaga.           |
| Without, sine.  | Vittu, Allathu, Indi,       | Natua.            |
| In,             | Il, Ul,                     | Atulé.            |
| On,             | Mél, Péril,                 | Pita.             |
| Now,            | Ippothu,                    | Dan.              |
| Then,           | Appothu,                    | Ewita.            |
| When ?          | Eppothu,                    | Kawadá.           |
| To-day,         | Indu, Indeikku,             | Ada.              |
| To-morrow,      | Nálei,                      | Heta.             |
| Yesterday,      | Néttu,                      | Eeyé.             |
| Here,           | Ingá,                       | Mehé.             |
| There,          | Angéi,                      | Ehé.              |
| Where ?         | Engei,                      | Kohéda.           |



| <i>English.</i> | <i>Malabar.</i>       | <i>Singalese.</i> |
|-----------------|-----------------------|-------------------|
| Above,          | Mélei, Uyara,         | Ihala.            |
| Below,          | Kélei,                | Pahala.           |
| Between,        | Udei, Idiyil,         | Atare or mada.    |
| Without, out-   |                       |                   |
| side,           | Veliyé, Purambér,     | Pita or bahara.   |
| Within,         | Ulléi,                | Atulé.            |
| Far,            | Thúra,                | Dura.             |
| Near,           | Kitte,                | Langa.            |
| Little,         | Siru, Konjam,         | Tika.             |
| Much,           | Met-tha,              | Bohoma.           |
| How much ?      | Evvalovu,             | Koccharada.       |
| As,             | Pól, Ena,             | Caret.            |
| So,             | Appadié, Avoannam,    | Mesé.             |
| Thus,           | Ippadi, Avoethamaka,  | Mesí.             |
| How ?           | Eppadi, Evoethamaka,  | Kohomada.         |
| Why ?           | En, Ethukkuka,        | Ayi.              |
| Yes,            | Ám, Om,               | Ou.               |
| No,             | Alla, Illei,          | Nœ.               |
| Do not,         | Seyathéi,             | Apá.              |
| And also,       | Um, Thanum,           | Ta, da.           |
| Or              | Allathu,              | Nohot.            |
| His,            | Avanudeya,            | Ohirgey.          |
| That,           | Ah thu, Athu.         | Eka.              |
| Which, jón }    | Thu,                  |                   |
| Which, tón }    | Carent,               | Kókoda.           |
| Which, Kon      | Ethu,                 |                   |
| What ?          | Enna, Entha,          | Mokada.           |
| Who ?           | Yár, Ever,            | Kowda.            |
| Anything,       | Ethum,                | Monawá numut.     |
| Anybody,        | Everayenum, Yarainum, | Kowru hari.       |
| Eat,            | Thin, Sappedu,        | Kanawa.           |
| Drink,          | Kudi,                 | Bonawa.           |
| Sleep,          | Nel-thirei,           | Nidá, gannawa.    |
| Wake,           | Villippu,             | Nagitenawá.       |
| Laugh,          | Sirippu,              | Hinahawenawa.     |
| Weep,           | Alukei,               | Andanawa.         |

| <i>English.</i> | <i>Malabar.</i>      | <i>Singalese.</i>                        |
|-----------------|----------------------|------------------------------------------|
| Be silent,      | Summayiru,           | Katákaranda épá (i.<br>e. do not speak). |
| *Speak,         | Pésu,                | Katákarapan.                             |
| Come,           | Vá,                  | Waren.                                   |
| Go,             | Po,                  | Palayan.                                 |
| Stand up,       | Nil,                 | Hitapan.                                 |
| Sit down,       | Iru,                 | Indagan.                                 |
| Move, walk,     | Nadamáduthal, Nadei, | Awidapan.                                |
| Run,            | Oduthal,             | . Duapan.                                |
| Give,           | Thá-Kodu,            | Diyan.                                   |
| Take,           | Edu,                 | Ganin.                                   |
| Strike,         | Adi, Thattu,         | Gahapan.                                 |
| Kill,           | Kollu,               | Marapan.                                 |
| Bring,          | Konduvá,             | Geneng.                                  |
| Take away,      | Eduttupódu,          |                                          |
| Lift up, raise, | Uyarthu, Thúkku,     | Ussápan.                                 |
| Hear,           | Kél,                 | Ahapan.                                  |
| Understand,     | Vilangu,             | Terunganin.                              |
| Tell, relate,   | Sollu,               | Kiyápan.                                 |
| Good,           | Nalla,               | Honda.                                   |
| Bad,            | Akátha.              | Naraka.                                  |
| Cold,           | Kulirmei,            | Sítala.                                  |
| Hot,            | Súdu,                | U'sna.                                   |
| Raw,            | Pachei,              | Amu.                                     |
| Sweet,          | Inippu,              | Mihiri.                                  |
| Sour,           | Pulippu,             | Ambul.                                   |
| Bitter,         | Kasappu.             | Titta.                                   |
| Handsome,       | Alahu, Alahána,      | Laksana.                                 |
| Ugly,           | Avalatchana,         | Kata.                                    |
| Straight,       | Nére,                | Kelin.                                   |
| Crooked,        | Kónal,               | Aeda.                                    |
| Black,          | Karuppu,             | Kalu.                                    |
| White,          | Venmei,              | Sudu.                                    |
| Red,            | Sivantha,            | Ratu.                                    |
| Green,          | Pachei,              | Nil.                                     |

\* These Singhalese verbs are here put in the imperative mood.

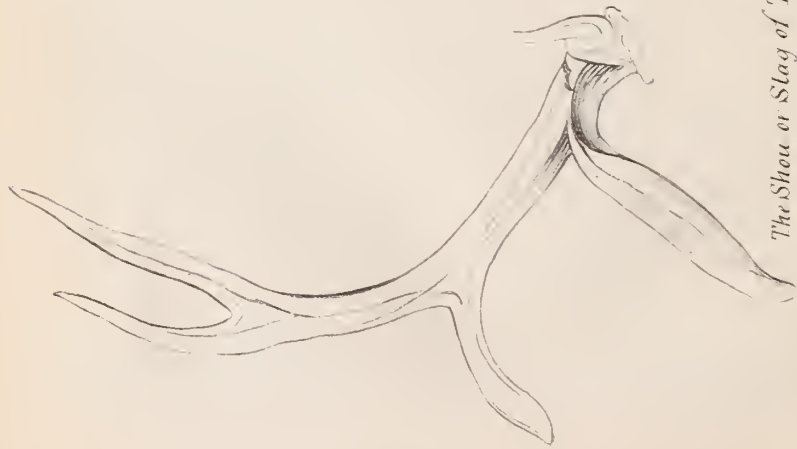
| <i>English.</i> | <i>Malabar.</i>        | <i>Singalese.</i> |
|-----------------|------------------------|-------------------|
| Long,           | Nedia, Nínda,          | Diga.             |
| Short,          | Kattei, Kurukal        |                   |
| Tall            | } man, Uyaranthavan,   | Usa.              |
| Short           |                        | Miti.             |
| Small,          | Siria, Sinna,          | Punchi.           |
| Great,          | Peria,                 | Mahat.            |
| Round,          | Vattippu,              | Wata or guli.     |
| Square,         | Sathuramana,           | Hataras.          |
| Flat,           | Shattei.               | Patali.           |
| Fat,            | Kolut-tha, Thúlitha,   | Tara.             |
| Thin,           | Melintha, Mellia,      | Tuní.             |
| Weariness,      | Ileit-tha, Kalait-tha, | Wéhésa.           |
| Thirst,         | Thakam.                | Pipása.           |
| Hunger,         | Pasi,                  | Badagini.         |

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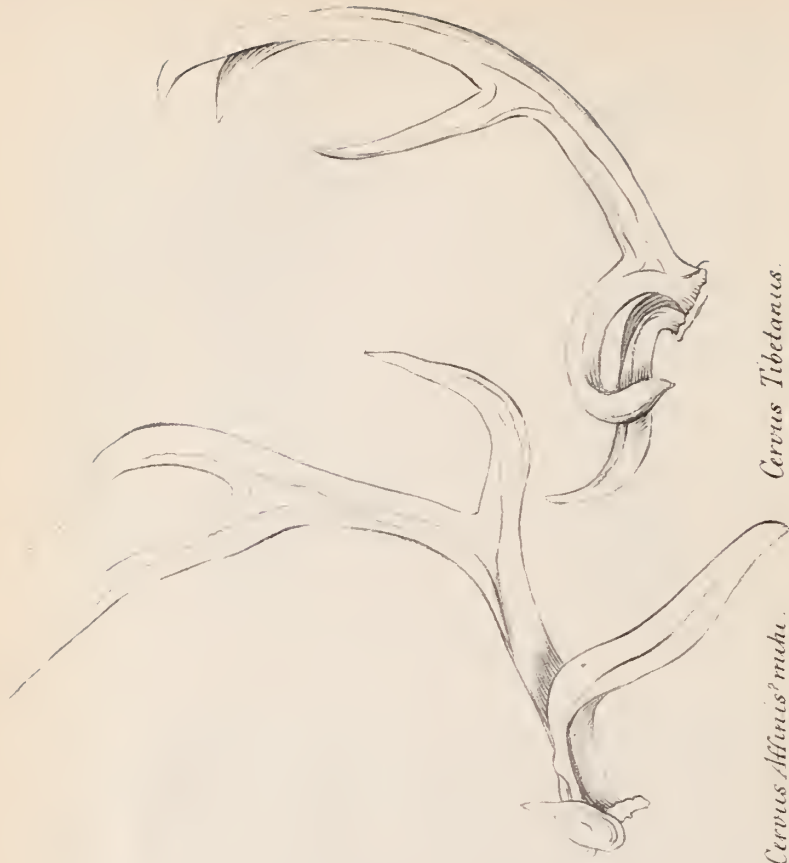
On the Shou or Tibetan Stag.—By B. H. HODGSON, Esq.

The subjoined sketch and measurements of a pair of stag's horns received from Tibet will doubtless excite much interest among Zoologists. I am indebted for the opportunity of examining these splendid spoils to my friend Dr. Campbell, Superintendent of Darjiling, who obtained them recently from a place called Ling-mo, not far from Phári, and situated in that arrondissement of the Tibetan province of Tsáng which is denominated Ding-cham by the Tibetans.

Ding-cham is the district extending north of Sikim and of Western Bhútán, from the ghát line of the Himálaya to the Kambalá or chain bounding the valley of the Yáru (Sanpoo) on the south. This district is described as being extremely rugged and bare, and no doubt is so, to a great extent, as forming part of the counter slope or pente septentrionale of such a chain as the Himálaya, and as having an elevation (just beyond the gháts, at least) of 16,000 feet, according to Dr. Hooker's determination. Yet Ding-cham is the habitat of a noble stag of the true Elaphoid type. Wherefore it is not too much to infer from this circumstance that within the bounds of that district, however



The Shou or Stag of Tibet. *Cervus Affinis* mchu.



Cervus Tibetanus.

rugged, there must be large tracts of comparatively level land ; and, as I have now obtained from various parts of Tibet two genuine Antelopes* with as many genuine Stags,† I conceive, that we may, nay should, generalize the above inference as to the physiognomy of the country, and conclude that Tibet with all its inequalities of surface is justly denominated, upon the whole, a plateau by Humboldt, notwithstanding all recent surmises to the contrary.

With these few prefatory remarks, I now proceed to describe the horns of the Shou or Stag, par excellence, of Tibet. These horns, which are a pair and in excellent preservation, are evidently the spoils of a mature and fine sample of the species. They are pale in colour, moderately pearly or rough on the surface, well bent in the beam, widely divergent, very ample in size, and genuinely Elaphoid in type. They are fifty-seven and a half inches in length along the curve, and nine and three quarter inches in thickness above the burr ; and they have the characteristic two basal and one central snags of the restricted group (*Elaphus*) very finely developed. The summit, however, consists of a deep fork merely, which is formed by one superior antler put off from the beam and not much inferior in size to it ; and, as the very same character distinguished the splendid sample of the supposed Stag of the Morung which was described many years ago by me in the Journal, I incline to think that this simply furcate summit is normal, nor ever replaced in increasing age by a many-antlered crown. The two basal snags are separated by an interval of about two inches. They are inserted obliquely on the outer and anteal aspect of the beam, and their general direction is horizontally forwards and outwards ; the lower one, however, having its point turned upwards, whilst the point of the upper one is curved downwards and backwards. The central snag is put off equidistantly from the basal and apical snags with an interval, from either, of about a foot. It starts wholly and clearly from the outside of the beam, and has an outward or lateral direction, at first horizontal, but curving boldly upwards from beyond the mid-length. It is smaller than the basal, or than the upper, snag, but ample in size. The upper snag is thick as the beam, but not so long ; is also put off from the outer side of the beam, but has a wholly

* *Pecticauda* et *Hodgsoni*, or *Góá* and *Chirú*.

† *Wallichii* et *Affinis*, or *Gyána* and *Shou*.

upward direction not greatly divaricating from the line of the beam,* and, like it, inclined forward towards the tip. The beams are well bent with a handsome backward slope as far as the central snag, beyond which they rise rapidly, but still keeping their graceful curve. The burrs are distinct but not large, and the points are sharp, save that of the upper basal snag which is blunt and worn, owing apparently to constant attrition with the earth caused by this snag's downward direction, and which must, I should imagine, have incommoded the living animal when grazing. These splendid horns have a great similarity of size, character and form to those of my *Cervus affinis*, the only differences noticeable between the two, being that the snags of the present subject are all put off from the beam somewhat more laterally (outside), and that the brow antlers consequently do not incline so directly over the face of the animal. The marked backward and downward curve of the upper basal antler or snag of the Shou towards its tip may be noted as a further subordinate distinction; but, upon the whole I conceive that the Shou is identical in species with my *Affinis*, and I am thence led to conjecture that my sample of the latter, though brought immediately from the Morung or Eastern Tarai, yet had priorly been carried there by some Tibetan trader or traveller, from whom it was obtained by some official of the Durbar of Nepaul. Certain it is, at all events, that the species does not now inhabit the Tarai, nor has done in the memory of the oldest inhabitant; and also, that the Durbar after much enquiry, at my suggestion, could only ascertain positively that the sample presented to me came to it from the Morung where it was believed to have been killed. With the Morung the Tibetans have much intercourse, and therefore I am led to infer that my first specimen may have come originally from Tibet, because the species still abounds there, and is not, now at least, found in any part of the Tarai. It is a noble animal, far superior in size to the Stag of Europe, and equal to the Wapiti or American exemplar of the genus. The Persian Stag and the Stag of Cashmere, not to add that of Mantchúria, are very possibly identical with our species, which in that event might be appropriately called the Asiatic Stag. Meanwhile, and pending the determination of these yet undescribed animals,

* In "crowned" horns this divergency is always great, both in the complete and incomplete states.

my specific name *Affinis* can stand as equally applicable to the supposed Morungian, and to the known Tibetan, animal; or, the Shou can be denominated *Tibetanus*, if considered distinct from the Morungian species, of which there is a fine sample in the British Museum.

I have already given my reasons for holding that the *Gyána* of Tibet or *Cervus Wallichii* is distinct from *Affinis*; and, as those reasons equally apply to the Shou, the distinctness of the latter from *Wallichii* of the same region, is thus established.

Dimensions of the horns.

	feet	in.
Greatest divergency of the tips between the upper snags,	3	7
Divergency between the ends of beams,	2	5½
Greatest length, along the curve,	4	9½
Girth, just above the burr,	0	9¾
Chord of arc of beam, or greatest curve,	1	2½
Length of greater basal snag,	1	8¼
Length of lesser basal snag,	1	5
Length of mid snag,	1	4
Length of upper snag,	1	8
Interval of basal and mid snags along the beam,	0	11½
Interval of mid and upper snag,	1	½
Weight of a single horn,	13	lbs.

On the Ghassánite Kings.—By A. SPRENGER, Esq., M. D.

Before the conquest of the followers of Mohammad there reigned a dynasty of kings in Arabia Petrea which is usually called the Ghassánite dynasty. They had come from Yaman and their tribe was related to the Khazrijites and Awsites, the tribes which occupied Madynah, to the Mázinites who are mentioned by Ptolemy and to some families of the Banú 'amr b. al-Azd, also to some of the Banú Aqçá and to the banú Hárithah b. 'amr b. 'ámir.* All authors agree that the Ghassánites derived their name from the spring Ghassán which according to Mas'údy is in the valley of the al-Ash'arians (the Elisari of Ptolemy)

* Khoshaybary.

between Zabyd and Rima' زعم : Pliny and Ptolemy place the Cassanitæ or Gasanitæ in the same spot. It would therefore appear that their original seats were in Yaman on the coast of the Red Sea. Arabic authors fable that the Ghassánites and the tribes related to them originally inhabited the city of Sabá which is mentioned by Mohammad in the Qorân probably on Jewish authority. There was a tank above the city, and a priestess foretold that rats or some other animals would perforate the dyke and that the city would be inundated. The inhabitants were so alarmed by this prediction that they emigrated. European critics have displayed an extraordinary amount of ingenuity in ascertaining what animal could have undermined the dyke! but none has for a moment doubted the truth of the fable.

The emigration of the Ghassánites from Yaman has probably taken place in the third century after Christ. This at least is the date of the immigration of the Khozá'ahites into Makkáh and of the Awsites and Khazrajites into Madynáh, and these three tribes migrated with the Ghassánites.

A generation in Arabia, as appears from the comparison of several hundred genealogies may be calculated at thirty lunar or twenty-nine solar years. The Ghassánite dynasty ceased 16 years after the Hijrah—A. D. 632. If therefore the Ghassánites had come to the throne of Arabia Petrea immediately after their migration, and if in all circumstances the eldest son had succeeded the father, we might suspect that there reigned from the time they emigrated from Yaman to the time when their dynasty ceased, that is to say, during a space of less than 400 years—about 13 kings; but it is certain that they did not at once conquer the country, and in oriental countries it seldom happens that the eldest son succeeds the father.

Hamzah of Ispahán, whom most other authors follow, gives us the following list of kings:—

1. 'Amr Mozayqiya.
2. Jafnah.
3. His son 'Amr.
4. His son Tha'labah.
5. His son al-Háarith.
6. His son Jabalah.
7. His son al-Háarith called the son of Maria.

8. His son al-Mondzir the elder.
9. Al-No'mán son of N. 6.
10. Al-Mondzir son of N. 6.
11. Jabalah son of N. 6.
12. Ayham son of N. 6.
13. 'Amr son of N. 6. (Hamzah tells us that these six brothers have reigned together ninety-two years and eight months!)
14. Jafuah son of N. 7.
15. Al-No'mán son of N. 7.
16. Al-No'mán son of N. 12.
17. His son Jabalah.
18. Al-No'mán son of N. 11.
19. Al-Hárith son of N. 11.
20. His son al-No'mán.
21. His son al-Mondzir.
22. 'Amr son of N. 19.
23. Hojr son of N. 19.
24. His son al-Hárith.
25. His son Jabalah.
26. His son al-Hárith b. Aby Shimr.
27. His son Abú Karib al-No'mán Qatám.
28. Al-Ayham b. Jabalah, grandson of N. 25.
29. Al-Mondzir b. Jabalah, grandson of N. 25.
30. Sharáhyl b. Jabalah, grandson of N. 25.
31. 'Amr b. Jabalah, grandson of N. 29.
32. Jabalah b. al-Hárith b. Jabalah, great grandson of N. 25.
33. Jabalah b. al-Ayham, grandson of N. 10.

According to this list they would have reigned seventeen generations some of which (in cases, in which several brothers of the king succeeded him before his son) we should be obliged to calculate above the average duration : the dynasty could therefore not have lasted less than 520 years, and we would be obliged to place its beginning in the first century after Christ. Yet we know from Latin and Greek Historians that no such dynasty then reigned in Arabia Petrea.

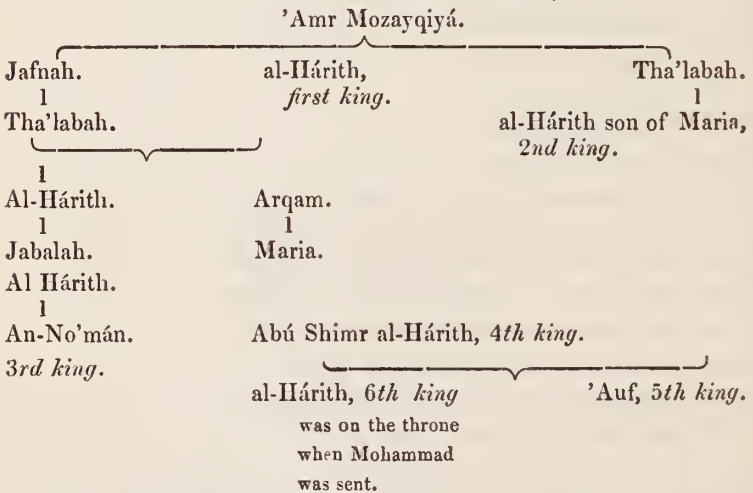
Secondly, Hamzah himself allows that the last king was the grandson of the tenth, and this is confirmed by the *Kitáb alaghány* and all other

good authorities, therefore if the list of kings was correct he would have succeeded to the throne at least 300 years after his grandfather.

Thirdly, most good authors identify al-Hárith the son of Maria who was the seventh king and al-Hárith b. Aby Shimr who according to this list was the 26th king. This man is also called al-Hárith b. al-'Araj (the Lame). He was according to Hamzali's own statement engaged in a war with al-Mondzir b. Má al-Samá king of Hyrah about the A. D. 530. Moreover Maria was the sister of Hind al-Honud wife of Hojr Ákil al-Morar Kindy the grandfather of al-Hárith who was killed about A. D. 537.*

As all historians after Hamzah follow his authority we must in order to correct the above list consult earlier authors, viz. Mas'údy and Ibn Qotaybah :

The Ghassánites according to Mas'údy.



The Ghassánites according to Ibn Qotaybah.

'Amr (his origin is not known).

Abú Shimr al-Hárith I. first King.

1

Al-Hárith II. al-A'raj son of Maria
takes Khaybar ; is attacked by al-Mondzir b. Má as-Samá.

* In Freytag's *Proverbia Arab.* voce حَذ and Qámús voce مارية

an-No'mán al-Hárith III. 'Ámr, Abú Shimr the younger.
 Hojr, an-No'mán, 'Ámr, Al-Mondzir. al-Ayham.

1
 Jabalah last king who
 had turned Moham-
 madan but apostatiz-
 ed under 'Omar.

Neither the list of Mas'údy nor that of Ibn Qotaybah is complete. The former author informs us that there were in all eleven kings and he enumerates only seven. The statement that there reigned in all eleven kings seems to be correct and if we put the three preceding lists together in such a manner as to make them agree with the incidental information which we find in other authors, we have eleven kings, viz.

'Ámr

His origin is unknown according to Ibn Qotaybah p. 411. Mas'údy and Hamzah identify him erroneously with Mozayqiá.

Zayd	al-Hárith I. 1st King	Jafnah
|	called <i>Moharriq</i> , and from him the whole dynasty is called <i>ál Moharriq</i> (Ibn Qotaybah and Mas'údy). Hamah places instead of him Jafnah and says he reigned 45 (lunar) years and 3 months.	(Mas'údy; Hamzah, Nos. 2 and 14) contemporary of Aswad King of Hyrah.
Zayd Manát		'Ámr I. 2nd King.
|	mentioned only by Hamzah (No. 3) reigned 5 years. Built the convents of Hály, Job and Hannád.	|
Hind		Tha'labah, 3rd King.
mother of Mondzir	(Mas'údy and Hamzah No. 4.) Built 'Iqyah and the fortress of Ghadyr in the Hawrán not far from the Balqá.	
Ming of Hyrah who was born about A. D. 400.	Reigned 17 years.	

Arqam	al-Hárith II. 4th King,
1	mentioned by Mas'údy who calls him erroneously Ibn Maria; and by Hamzah (Nos. 5 and 24) reigned twenty or twenty-six years. Was defeated by the Romans in 488. See Vincent, p. 248 note.
Maria	Abú Shimr, Jabalah I. 5th King,
d'zát qortayn wife of Jabalah.	mentioned by Mas'údy and Hamzah (Nos. 6 and 25.) Built Qanátir, Adraj and Qastal. (Castellum?) Reigned 10 or 17 years.

al-Háarith III. 6th King.

called *al-A'raj*, *Ibn Aby Shimr* and *Ibn Maria*; the most distinguished King of the dynasty. Takes Khaybar; destroys the king of Hyrah al-Mondzir b. Má as-samá about A. D. 563. (*Ibn Qotaybah* p. 412, compare *Freytag Prov. Ar.* II p. 611). Hamzah mentions him under number 7 and 26. He reigned 21 years and 5 months. He is mentioned by Vincent in the *Periplus*, p. 248 note.

an-No'man	al-Mondzir	Jabalāh	'Amr 9th King.	al-Háarith IV.
7th King.	8th King.			10th King.
Mas'údy and Hamzah (Nos. 9 and 27) reigned 15 years and six months.	Mas'údy and Hamzah (Nos. 8, 10 and 30) reigned 13 years. He is called Mondzir the Elder.		(Hamzah Nos. 13 and 32) reigned 10 years and 2 months. Mas'údy calls him 'Auf.	A contemporary of No'man b. Mondzir of Hyrah. Hassán b. Thábit makes poems in his praise, (Mas'údy and Kítab al-Aghamy and Hamzah).
		al-Ayham		
		1		
		Jabalāh 11th and last King		
		was on the throne in A. H. 7 (Wáqidy and Ibn Ishaq).		
		Hassan b. Thábit made songs in his praise. Dethroned in A. D. 637.		

*Note on the bird-devouring habit of a species of Spider; by Capt. W. S. SHERWILL. Communicated by Mr. BLYTH.**

During one of my rambles in company with four other officers in the army, amongst the Karrakpur hills, in the immediate neighbourhood of Monghyr, on the Ganges, I fell in with several gigantic webs of a large black and red spider, which stretching across our path in many spots, offered from their great strength a sensible resistance when forcing our way through them. The webs are of a bright yellow colour, and we found them stretching from ten to twenty feet, that is, including the grey ropes which are generally fastened to some neighbouring tree or a clump of bambus, the reticulated portion being about five feet in diameter, in the centre of which the spider sits waiting for

* This interesting communication on the contested subject of bird-eating spiders originated in my request that the author would commit to paper the observation of which he had assured me in conversation.—E. B.

its prey; he is of a dark black hue with red about him, but at this distance of time, now three years, I cannot remember his exact appearance. I brought one down with me from the summit of the mountain Maruk, which is eleven hundred feet above the Ganges, and he measured six inches across the legs when set up. It was in the web of this very spider that I found the bird entangled, and the young spiders (about eight in number and entirely of a brick-red colour) feeding upon the carcass. The bird was much decomposed and enveloped in web, but the beak and feet being visible I sketched them, a copy of which sketch I enclose for your satisfaction.* The bird hung with his head downwards, his wings were closely pinioned to his sides by the entwined web, and was nearly in the centre of the web. The old spider which I secured was above the bird about a foot removed.

Had we not been a half-starved party, we should have bottled the bird, spider and young ones; but we were at the end of a five-days' roam amongst these steep hills, covered with wet grass, without beds or covering, in the height of the rainy season, so you may imagine our commissariat was at too low an ebb to afford brandy for such a purpose!

Note by Mr. Blyth. This communication from Capt. Sherwill is the more interesting, since the total demolition of Madam Merian's account of a bird-eating spider in Surinam, by Mr. W. S. McLeay, in the 'Proceedings of the Zoological Society,' 1834, p. The species would appear to be an *Epeira*, most probably undescribed, and remarkable for the "bright yellow colour" of its web.

Note on an Inscription from Oujein; by RÁJENDRALÁL MITTRA,
Librarian, Asiatic Society.

Sometime ago Mr. R. N. C. Hamilton of Indore presented to the Asiatic Society a fac-simile of a Grant discovered in digging a ruin in the vicinity of Oujein. The character of the Inscription is the Kutila of the 10th century, engraved on two tablets of copper the last of which has on it a figure of Gaḍuḍa, the vehicle of Vishṇu. The style is extremely pompous and figurative, quite characteristic of the age in which it was written, and the document itself is imperfect as a

* A *Nectarinia* apparently, and probably *N. asiatica*.—E. B.

legal record, giving neither the boundary of the donation, nor the name of the country over which the donor exercised his authority. The fact, however, of a Hindu monarch granting the revenues of a village in the vicinity of Oujein, for the use of a goddess in that city, in the year 1036 Samvat, seems to throw some light on the course of succession of the Chohan kings of Malwa.

The catalogue recorded by Abul Fazl, (*Ayín Akbary*, Vol. II. p. 51,) places the whole of the Chohan dynasty, extending to about 140 years, between Jag-deva and Maldeva, the latter of whom, it is said, was dethroned in the year 866, A. C., by Sheikh Sháh, father of Alá-uddín. It is, however, stated by the same authority that Alá-uddín was a minor in the year 1037, thus making the reign of the Sheikh last for nearly 172 years!

The grant under consideration records a list of four kings, the last of whom lived 57 years before Alá-uddín, and bestowed a village in the vicinity of Oujein; if this circumstance would authorize the belief that he was a ruler of that country, the four kings named in the grant would fill up the hiatus between Maldeva and Sheikh Shah, and divide among themselves the greater part of the 172 years which Abul Fazl gives to the Sheikh alone.

It is difficult to determine if Vákpati ráj, the last prince of the grant, was a scion of the noble house of the Chohans, or if Krishna-ráj Deva, the first on the list, was the immediate successor of Maldeva, and it is evident from the sanction of Rudráditya to the grant that Vákpati was not an independent sovereign, notwithstanding his ultra-regal title of *Mahárajádhirája*; the fact, however, of his authority in Oujein entitles him to a place in the blank between Maldeva and Sheikh Shah.

The names, arranged in the order of succession in connection with Abul Fazl's list, stand thus :—

Maldeva, 866, A. C. (A. F.'s list.)

Krishna-ráj Deva.

Vairisinha Deva.

Siyaka Deva.

Amoghaversa Deva, alias Vákpati-ráj Deva, alias

Vallabhanarendra Deva, 980, A. C.

Sheikh Shah, (A. F.'s list.)

Dharma Rájá Saud, Vizier during the minority of Alá-ud-dín (1057), who put him to death.

Inscription.

याः कुन्दोदरभट्टद्विधानलमिलद्धूम्प्रभाः प्रोक्तसन्मूर्द्धाबद्धशशाङ्गको-
टिधटिता याः सैहिकेयोपमाः । याः कुञ्चद्विरिजा कपोललुलिता कस्तू-
रिकाविभ्रमास्ता ओकण्ठकठोरकण्ठरुचयः श्रेयांसि पुष्पान्तु वः ॥ यल्ल-
क्ष्मीवदनेन्दुना न सुखितं यन्नार्दितम् वारिधेर्वारा यन्न निजेन चात्मसरसा
पद्मेन शान्तिं गतम्यच्छेष्टा हि फणा सहस्रमधुरश्वासैर्न चाश्वासितं तत्रा-
धाविरहातुरं मुररिपोर्वैल्लद्वयः पातु वः ॥ परमभट्टारक महाराजा-
धिराज ओपरमेश्वर ओक्तणराजदेवपादान्तख्यात परमभट्टारक महा-
राजाधिराज ओपरमेश्वर ओवैरिसिंहदेवपादान्तख्यात परमभट्टारक
महाराजाधिराज ओपरमेश्वर ओसीयकदेवपादान्तख्यात परमभट्टारक
महाराजाधिराज ओपरमेश्वर ओमदमोघवर्षदेवाऽपराभिधान ओ-
मत्वाक्पतिराजदेव पृथ्वीवल्लभ ओवल्लभनरेन्द्रदेवकुशलो ॥ तिणिस-
पत्रद्वादशकसंवत्स्रमहासायनिक ओमहाइकभुक्तसेम्बलपुरकग्रामे समु-
पागतान् समस्तराजपु(रु)षान् ब्राह्मणोचरान् प्रतिवासिपट्टकिलजन-
पदादींश्च बोधयत्यस्तु वः । संविदितं यथाग्रामोयमस्माभिः षट्त्रिंश-
साहस्रिकसंवत्सरेऽस्मिन् कार्तिकशुद्धपौर्णिमायां सोमग्रहणपर्वणि
ओभगवत्पुरावासितैरस्माभिर्महासायनिक ओमहाइकपत्नी आसि-
नी प्रार्थनया उपरिलिखितग्रामस्वसोमान्था गव्यूतिगोचरपर्यन्तः
सहिरण्यावासभोगः सोपरिकरः सर्वादायसमेतः ओमदुज्जयिन्यां
भट्टारिका ओमत्हट्टेश्वरीदेव्यैः स्नानालेपनपुष्पगन्धधूपदीपनैवेद्यप्रेक्ष-
णादिनिमित्ताय तथाखण्डस्फटिक(क)तटे च गृहे जगति समारच-
नार्थञ्च मातापित्रोरात्मनः स्वपुण्ययशोऽभिरुद्धयेऽदृष्टफलेनाङ्गीकृत्य-
चन्द्रार्कार्णवक्षितिसमकालं परया भक्त्या शासनेनोदकपूर्वकं प्रतिपादितं
च इति मत्वा तन्निवासिपट्टकिलजनपदैर्यथा दीयमानं भागभोगकरा

द्विरण्यादिकं सर्वमाज्ञाश्रवणविधेयैर्भुत्वा सर्वमस्याः समुपनेतव्यम् ।
 सामान्यं चैतत् पुण्यफलं बुद्धा ऽस्यवासिनैरन्यैरपि भाविभोक्तृभिरस्स-
 दारब्धधर्मदार्ढ्यायमनुमन्तव्यं पालनीयं च उक्तं च । बज्रभिर्वसुधा भु-
 क्ता राजभिः सगरादिभिः यस्य यस्य यदाभूमिस्तस्य तस्य तदा फलम् ॥
 यानोह दत्तानि पुरा नरेन्द्रैर्दानानि धर्मार्थयशस्कराणि । निर्माल्य
 वान्तप्रतिमानि तानि कोनाम साधुः पुनराददीत ॥ अस्मत्कुलक्रममुदा-
 रमुदाहरद्विरन्यैश्च दानमिदमभ्यनुमोदनीयम् । लक्ष्मीस्तडित्सलिल-
 वद्बुद्बुदवच्चलाया दानं फलं परयशः परिपालनञ्च ॥ सर्वानेतान्माविन
 पार्थिवेन्द्रान्भूयोभूयो याचते रामभद्रः । सामान्योऽयं धर्मसेतुर्नृपाणां
 काले काले पालनीयो भवद्भिः ॥ इतिकमलदलाम्बुविन्दुलौलां श्रियःम
 नुचिन्त्यमनुष्यजीवितञ्च । सकलमिदमुदाहृतञ्च बुद्धा नहि पुरुषैः
 परकीर्तयो विलोप्याः ॥ इति संवत् १०३६ चैत्रवदि ६ पुण्य
 पुराविशतः श्रीमन्महाविजयंकरावारेखयमाज्ञादायकश्रीरुद्रादित्यः ।
 स्वस्त्येतायं श्रीवाक्पतिराजदेवस्य ॥

Translation.

May the musk spots on the elegant little cheeks of Girijā, resplen-
 dent as the gem *kunda* (1) shining in a cloud of envenomed (2) smoke,
 beautiful as the strong neck of Srikanṭha, and comparable to Saiṇhika (3)
 (grasping) the ten millions of moons that are bound round the well-
 formed head (of Durgā);—may they preserve you in prosperity !

May the trembling body of Murārī, whom the charming countenance
 of Lakshmi delighteth not, and the waters of the ocean softeneth not ;

1. One of the inestimable treasures of Kuvera, the god of wealth.

2. Lit. " smoke generated by the burning of poison."

3. " Son of Siṇhika, a demon with the tail of a dragon, whose head was severed
 from his body by Vishnu, but being immortal, the head and tail retained their
 separate existence, and being transferred to the stellar sphere, became the authors of
 eclipses, the first especially, by endeavouring at various times to swallow the sun
 and the moon."—Wilson.

whom not even the beauty of his own excellent and lotus-like form can pacify, nor the breath of the thousand-hooded Sesha (4) appease ; —of him who is frantic at his separation from Rádhá :—may it protect you !

The most venerable king of kings, lord Sri Krishnarája Deva was succeeded by the most venerable king of kings, lord Sri Vairisiñha Deva, whom succeeded the most venerable king of kings, lord Sri Siyaka Deva, who was followed by the most venerable king of kings, lord Sri Amoghavarsa Deva, alias Vákpati-rája Deva, beloved of the earth, Valabhanarendra Deva, the healthy.

* * * Be it known unto all the brahmanas, regal officers, and leaseholding neighbours assembled in the village of Sembhalapura, which holds * * * Sri Maháyika, that in the year of Samvat 1036, on the occasion of a lunar eclipse in the month of Kártika, we (of the city) of Bhagavatpura have, by this *edict* and water (5), at the request of Ásiní, the wife of * * * Sri Maháyika, for the promotion of the virtue and fame of ourselves and parents, presented to her this village, with an area of two coss beyond its boundary, together with all its buildings, commons, rents and taxes, for the period of the duration of the sun, moon, earth and ocean, (in order) to (defray the expenses of) bathing unguents, aromatics, flowers, incense, lights, edible articles, public exhibitions, &c. &c. (necessary for the worship) of the most venerable Haṭṭeswarí Déví of Ujjayini, and for decorating her crystal-paved temple. It is therefore the duty of the lease-holders of this place to pay to her the usual revenue, taxes, gold, &c. in obedience to her desires.

This pious act, begun by me, involving as it does the good of the public, my descendants and successors ought to observe and uphold :—for it is said ; “ By many kings, Sagara as well as others, the earth has been governed. Whosesoever has been the land his has then been the fruit.

“ The gifts which have been granted by former princes, conferring on

4. The king of the serpent race, as a large thousand-headed snake, at once the couch and canopy of Vishnu. *Wilson*.

5. i. e. the water made use of in the consecration of the grant.

them virtue, wealth and fame, resemble orts and vomited food. What good man will resume them ?" (6).

May they, who rehearse the munificence of my race, as well as those who do not, find this gift gratifying unto them ! and may they, knowing wealth to be as transient as lightning or like bubbles of water, uphold the bounty and fame of others !

Ráma the auspicious repeatedly beseecheth all the future rulers of the earth ever to preserve this public bridge of virtue for kings.

Wealth and life are as unstable as water on a lotus leaf, knowing this and the texts above quoted, men ought not to efface the glorious deeds of others.

The 9th day of the dark lunation of Chaitra, Samvat 1036.

* * * * By order of * * Sri Rudráditya. Done by Sri Vákpati-rája Deva.

6. From Mr. J. C. C. Sutherland's version in the Journ. As. Soc. Vol. VIII, p. 486.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL
FOR JULY, 1850.

At a Meeting of the Society held on Wednesday, the 3d July, 1850,
The HON'BLE SIR JAMES COLVILE, President, in the Chair,
The Proceedings of the last Meeting were read and confirmed.
The Secretary intimated that Mr. G. Udny had expressed his desire
to withdraw from the Society on the expiration of the current quarter.

Read letters—

From N. O. Baillie, Esq., submitting for sale, a portrait of Sir
William Jones, (said to be) by Sir Joshua Reynolds.

Ordered that the Picture be returned to the owner as the Society
cannot purchase it.

From Rev. J. Long, forwarding a letter from Rev. G. G. Cuthbert,
Secretary, Church Mission Society, regarding Mr. Long's application
for 10 copies of the Bibliotheca Indica, for certain Vernacular Libraries
established by that Mission, in different parts of Bengal.

Ordered that Mr. Long's request be complied with.

From Bábu Peáry Chand Mittra, Librarian, Calcutta Public Library,
acknowledging the receipt of Nos. 25 to 29 of the Bibliotheca Indica,
and No. 1 of the Journal for 1850.

From W. Seton Karr, Esq., Under Secretary to the Government
of Bengal, the subjoined letter regarding the repairs of the Adinah
Masjid.

No. 913.

*From the Under Secretary to the Government of Bengal.**To DR. W. B. O'SHAUGHNESSY, Vice President and Secretary to the Asiatic Society.**Dated Fort William, 11th June, 1850.*

SIR,—In continuation of the letter from this office, No. 457, dated the 2d April, I am directed by the Deputy Governor of Bengal to inform you that His Honour has been pleased, as a preliminary measure recommended by the Military Board, to sanction an outlay of Rs. 500, for the purpose of clearing the jungle round the Adinah Masjid of Panduäh.

2. The Officiating Executive Officer of the 4th Division having represented that elaborately carved pieces of Sculpture are constantly being carried away from the Masjid in question, the Superintendent of Police has this day been requested to instruct the Joint-Magistrate of Maldah, to endeavour, by all lawful means within his power, to prevent the spoliation of this monument of antiquity.

I have the honor to be, Sir,

Your most Obedient Servant,

W. SETON KARR,

Under Secretary to the Government of Bengal.

From R. W. G. Frith, Esq., offering for sale a large collection of Insects from various parts of India.

Resolved—that the thanks of the Society be returned to Mr. Frith for his offer, and it be intimated to him that under the present state of their finances, the Society are unable to purchase the collection.

8. From Col. J. Low, Edinburgh, regarding the antiquities lately despatched by him from Penang.

Ordered that the Antiquities be returned to Col. Low's Agents in Calcutta.

9. From Dr. Roer, Secretary, Oriental Section, submitting certain Propositions of the Section, for adoption by the Society.

To Captain F. HAYES, Secretary, Asiatic Society.

SIR,—Dr. Ballentyne having offered a translation of the Sāhitya Darpana for publication in the Bibliotheca Indica, I have the honor, by direction of the Oriental Section, to request the sanction of the Society to his proposal.

The Sáhitya is a well known Sanscrit work on rhetoric, giving a view of the various kinds of composition in Sanscrit, and would be of great interest to the student of Sanscrit literature.

The Section also recommend the reprinting of the text. It has been published before by the Committee of Public Instruction, but is now out of print, and a new edition will be acceptable, and meet with a ready sale, as it is a text-book in the Government Sanscrit Colleges.

I forward the undermentioned Sanscrit books, which the Section propose to be purchased for the Library.

I have the honour to be, Sir,

Your most obedient Servant,

E. ROER,

Co-Secretary, Asiatic Society, Oriental Department.

Howrah, 1st July, 1850.

5 copies of Kádambari, 2d pt. at 2 Rs.,	10	0	0
1 copy of Dasa Kumára Charita,	2	0	0
1 ditto Váiyákaraṇa Bhúshana,	1	0	0
1 ditto Sánkhyā Tattvakaumudī,	1	0	0
	<hr/>		
Co.'s Rs.....	14	0	0

To Captain F. HAYES, Secretary, Asiatic Society.

SIR,—By direction of the Oriental Section I have the honour to return the letters from Messrs. Lassen, Burnouf* and Müller, and to submit the suggestions of the Section thereon, for the approval of the Council and the Society.

2. With reference to Dr. Müller's letter the Section would propose,

1. That the Society should subscribe to 10 copies of each of the works intended to be printed by Dr. Goldstuecker, the cost to be charged to the Oriental Fund, as it has been done on a previous occasion concerning Dr. Weber's edition of the white Yajur Véda.

Those works are :

1. Jaimani's Púrva Mímánsá Súra.

2. Mádhava's Nyáya Málá Vistára.

3. Kumáрила's Tattva Várttika.

2. That Professor Brockhaus be presented with a copy of the Bibliotheca in return of his presentation of the Kathá-Sarit-Ságara to the Society.

* The letter from Professor Burnouf, I find, has not been returned to me.

3. With regard to Professor Lassen's complaint that the 14 numbers of the Bibliotheca and Dr. Hæberlin's Anthology have not reached him, the Librarian states, that he had despatched them last year along with other books per "Lord Auckland." The Section think it therefore advisable, that Messrs. Allen and Co. should be addressed on this subject, as well as on the cause of delay which appears to have taken place on several other occasions concerning the delivery of the books forwarded to them by the Society.

4. The Section recommend that those parts of the letters which refer to literary subjects be printed in the Proceedings.

I have the honour to be, Sir,

Your most obedient servant,

E. ROER,

Co-Secretary, Asiatic Society, Oriental Department.

Howrah, 1st July, 1850.

Extract from a letter of Professor CHR. LASSEN, dated the 3rd April, 1850.

MY DEAR SIR,—I received some days ago from Mr. Kœnig the 6th volume of Rājā Rādhākānt Deb's Sabda-Kalpa-Druma and Dr. Hæberlin's Sanscrit Anthology. Of the 14 numbers of the Bibliotheca Indica, the box contained only those, bearing the address of Mr. Kœnig, while those which the Asiatic Society had intended to favour me with, were wanting. I cannot doubt that these books were despatched from Calcutta, and must therefore believe, the neglect lies with Allen and Co., to whom I will write immediately; but I am much afraid, that I shall not get the books. This is most vexatious to me, as I feel greatly disappointed by being deprived of this collection, of which I cannot expect the Society to spare another copy for me. How slowly, in general, books from India reach us, you will perceive from the fact that I have only now received the February number for 1849, of the Journal of the Asiatic Society, and of Mr. Hodgson's latest writings I have as yet seen nothing. You will much oblige me by thanking the Asiatic Society in my name for Dr. Hæberlin's Anthology, and Rājā Rādhākānt Deb for the 6th volume of his Sabda-Kalpa-Druma.

I am very sorry to learn from your letter of the 8th January last, that neither the first part of the second volume of my Indian Antiquities, nor your diploma, together with the first numbers of the Journal of the German Oriental Society, has reached you. The former had last summer already arrived in London, as the Royal Asiatic Society acknowledged its receipt, and its non-arrival in Calcutta must likewise be ascribed to the neglect of the booksellers. I will in future despatch the books for Calcutta viâ Ham-

burg, and shall feel obliged, if you will do the same with the books, sent to me from Calcutta, under the address of J. Esmarch in Hamburg, who will safely forward them.

In the number of my Journal, now being under the press, I have given due praise to the publication of the Bibliotheca Indica by the Asiatic Society, and have also pointed out your share of merit in this undertaking. I am very glad to hear, that my proposition to publish the second part of the Naishadhia has met with your approval.

I continue without intermission my work on Indian Antiquities. The printing of the next part will probably commence in the course of this year.

Extract from a letter of DR. M. MÜLLER, dated Oxford, 20th March, 1850.

MY DEAR SIR,—You will have probably received before this, I hope, the first volume of my edition of the Rig Veda. It was ready in October last, and I had given orders to despatch the copies destined for India. Meanwhile I went to Germany, and on returning to England after five months, I found that the copies for India were despatched only a short time ago. I hope, however, that they have now safely arrived there, and that my edition will meet with the approval of the learned in India. On my return I was delighted to find the books which you so kindly sent me, viz. the Bibliotheca Indica, to number 2d (February, 1849), the Indian prints, and the 6th volume of Rájá Rádhákánt Deb's Sabda-Kalpa-Druma. Pray tender my best thanks to the Society and to the Rájá. I cordially thank you for your kindness, and congratulate you on your indefatigable efforts in publishing the Bibliotheca. The works you have selected are most excellent and useful. Should you be able to add also the Taittiriya Sañhitá, you would satisfy all our wishes; but whatsoever you may give us, it is welcome to us here in Europe.

* * * * * * * *

The labours in Sanscrit go on vigorously in Germany. Of Lassen's Indian Antiquities the first part of the second volume has only as yet appeared; soon, however, the second part will be ready. Bopp is engaged in writing a Comparative Essay on Accent. You will have probably received the fifth part of his Comparative Grammar. Weber is rapidly proceeding with his Vájasa-neyi Sañhitá. His Journal 'Indian Researches' contains likewise a good deal of interesting material. Stenzler's edition and translation of Yajna-vaalkya is very useful and correct. Bemfey is printing a Sanscrit Anthology, and Hæter has published a kind of Sanscrit spelling book. Great and important works are expected of Dr. Goldstuecker, especially his edition of

Jaimini's *Púrva Mímánsá Sūtras* with *Sávāra's* commentary, and *Mádhava's Nyāya Málā Vistāra* perhaps also the *Tantra Vārttika* of *Kumārila*. These works are of the highest importance for the history and further elucidation of the doctrines of the Vedas, and much information may especially be derived from them concerning ceremonies.

Kumārila abounds with interesting details of Indian antiquity and the reviving critical knowledge of Indian philosophy which has exhausted its ingenuity in the Vedas. The difficulty in his undertaking is, as usual, the expense, no bookseller being disposed without a subscription to enter upon so great an undertaking. And still all these works are of the greatest importance for our oriental researches. Do you think, the undertaking would meet with any support in India? The printing of *Mádhavas Nyāya Málā Vistāra*, of which interesting extracts are given in his introduction to the *Rig Veda*, will be immediately commenced, and the continuation of his labours will depend upon the success of this work. If the Asiatic Society would patronize the undertaking in the same way as they have done *Dr. Weber's*, a great service would be done to all of us. I saw *Burnouf* in Paris. He is engaged in completing the second volume of his *Buddhism*. I am sorry to say, his health is not as good as one would wish for the interests of science. Very great expectations are entertained of his history of southern Buddhism. Nothing else is doing in Paris for the Sanscrit, with the exception of *Langlois's* translation of the *Rig Veda*, of which the second volume is out already. *Professor Wilson's* translation of the same work has far advanced in printing. Here, in England, all oriental interest is concentrated in the decyphering of the Babylonian and Assyrian inscriptions by *Major Rawlinson*. He is now publishing the results of his labours, and is a man upon whom one can place reliance. *Bournouf* had likewise made many researches on this subject, but has given them up on discovering, that the language is Semitic, which is not his especial line of study. Many of the geographical names which *Rawlinson* now reads, had been discovered by *Burnouf* already two years ago, without, however, his publishing them. In Berlin the work of *Professor Lepsius* on Egypt, of which the first volume has appeared, creates great sensation. He is now occupied with a phonetic work which is to form the basis of a general system to represent by writing the sounds of Oriental languages, and the adoption of which would much advance Oriental science. We may come at last to an understanding on this subject, if each of us would agree to give up individual habits and customs. In India especially, I should think, the want of a systematic and general representation of Oriental words must be felt, and it would be a great thing, if after so many abortive attempts a general alphabet could be at last adopted. I will send you the work as soon

as it appears. Perhaps you may be able by your position, to contribute to its adoption by the Asiatic Society. This reminds me of Dr. Goldstueker's desire of becoming a member of the Asiatic Society, and of receiving regularly a copy of the Journal as well as of the Bibliotheca. The subscription might best be paid to Allen and Co. I have the same wish for myself, but am afraid, the expense may be too much for me. Pray, inform me of the amount of the subscription, and whether it is not less expensive to subscribe to the Journal only, which I am anxious to receive regularly. Are there still to be had in India complete copies of the Asiatic Journal? and what is the price? Here we can only procure single numbers, and at a very high price. Nor are the Asiatic Researches anywhere for sale, and if you should find an opportunity of obtaining a complete set, I trust, you will think of me. Professor Brockhaus in Leipzig has charged me with the following commissions for you. He does not think fit under the present circumstances to go on with the publication of the Kathá-Sarit-Ságara, and should feel delighted if you would complete this work in the Bibliotheca Indica. He is also very anxious to obtain a copy of the Bibliotheca. He has, some years ago, sent his edition of the abovementioned work to the Asiatic Society, but has never been informed of its arrival in Calcutta. With regard to the Rámáyana which you once intended to publish, Gorresio has completed his edition of the text, and the Italian translation, notwithstanding the Sardinian discomfiture, is to be continued. On an early occasion I will send you £20 from the Royal Library at Berlin. Dr. Pertz, the Librarian, avails himself, with the sincerest thanks, of the permission of the Asiatic Society to have MSS. copied, and has fixed that sum for the commencement. No further part of the Nirukta by Roth has appeared, but a commentary has been promised. The Sanscrit philosophical books which you so kindly got for me, are very interesting, and ought to be translated. Is nothing done in India for the Yóga philosophy? which until now has been so undeservedly neglected. How is it with the Brihad Devatá of Sonaka? Is no MS. of it to be had in India? In Berlin there is one full of interesting matter, but too incorrect for publication. Likewise Saunaka's Chaturadhyáya and the Pratisákhyas to the Atharva are rare MSS. which I should like to possess, if they are obtainable.

Excuse my troubling you with so many wishes. I fear, my letter has become a heap of requests and questions. I shall, however, be well satisfied without your replying to all of them, only let me hear soon again of what you are doing in India for Sanscrit literature.

Ordered that the recommendations of the Oriental Section be adopted, and Dr. Roer be requested to make any suggestion he may think fit with reference to the Society's Agents in London.

10. From R. Watson, Esq., forwarding a slab of flexible Sandstone, presented by Capt. Douglas.

11. From M. l'Abbé J. M. T. Guerin, presenting to the Society a copy of his work on Indian Astronomy.

After some desultory conversation regarding the Society's Museum of Economic Geology, it was moved by Rev. J. Long, seconded by Mr. Mitchell and resolved—

That the Council be requested to procure from Mr. Piddington, as Curator of the Museum of Economic Geology, a report of what he has done in that Department during the last twelve months.

The Librarian and the Zoological Curator having submitted their reports, the meeting adjourned.

Confirmed 3rd, August, 1850.

J. W. COLVILLE, *President.*

FLETCHER HAYES, *Secretary.*

*Report of the Curator Museum of Economic Geology for July, 1849.**

Geology and Mineralogy.—We have received from Captain Ommanney, Executive Engineer, 3d Division, a box of specimens, with a paper describing the site at which they were found, which may be thought worth printing in the Journal. From the description given I am inclined to suppose these stones form part of the ruins of some attempt at a *barrage* of a river for the purpose of irrigation, and that the wells described by Captain Ommanney are those belonging to an ancient subterranean water course, the *kan-naughts*† of the Persians, which are more or less known from Affghanistan and Persia to Constantinople, which city is still dependant upon them for much of its supplies of water.

Mr. Wm. Theobald, Junr. has sent us a miscellaneous collection of Indian and European rocks, minerals and fossils, out of which we shall be able to select a number of good ones, either as new varieties or duplicates, for our Cabinets.

* Having been mislaid, this Report was not published along with the proceedings for July, 1849.

† I do not know of any remains of them described in India, but it is difficult to suppose that the followers of the Mogul Emperors did not bring with them, and practice, the art of constructing these; and that, as here, the attempts often failed by the caprices of our Indian rivers.

Our old and zealous contributor Dr. Spilsbury sends us a large lump of the Magnetic Diorite described in my paper in the Journal for this year. He states also that the discoverer is Captain Jenkins, 10th Madras Infantry.

He mentions also a fine slab of Dendritic Sandstone but this is not yet received* though dispatched a year and a half ago!

He also presents a Hippopotamus' skull from the neighbourhood of Nursinghpoor, but minus the lower jaw; for which he is indebted, he says, to Mr. Cheyne, a Madras Medical Officer; and a portion of the lower jaw of an elephant of a kind totally unlike any of the preceding from the Nerbudda, and which he thinks resembles the *E. insignis* of Cautley and Falconer.

"It was dug up (he says) at Beltarree Ghat on the Nerbudda, a site from which I sent specimens years ago. Vide As. Jour. Aug. 1834, p. 389. These two specimens were sent in to Captain Elliot, the Deputy Commissioner of Nursinghpoor, and by him placed at my disposal."

Economic Geology.—I have put into the form of a paper for the Journal, my examination of an orange-coloured soil sent from Sikkim by Dr. Campbell, where it is used as a cure for Goitre.

Captain Campbell B. A., Commissary of Ordnance, Saugor, Bundelcund, has sent us a large collection of 128 specimens of rocks and ores, and of 44 specimens of clay of various kinds. These have not yet been examined.

Dr. Spilsbury has also procured for us from Dr. Macintire, Residency Surgeon, Nagpore, specimens of the various Samy stones (see Journal: Proceedings, Jan. 1845,) used in the polishing work of the arsenal there, as "Country Emery." The following is an extract from Dr. Macintire's chit sent by Dr. Spilsbury.

"By this day's banghy I send you a packet of small specimens of the different kinds of Samy stone procurable. I have numbered them 1, 2, 3, 3*, 4, 5, 6, so that you can select those you require. I can then send you any quantity. The first five specimens are found in a quarry at a village named "Pohorah" about 60 miles to the right of the Raepore and Calcutta road. It is a regular "Koorrun" quarry, and these stones are taken from it to different parts of the country as an article of trade by Brinjarras and other people. They are found in strata as I have numbered them, i. e. No. 1, is under the surface, No. 2, under that again, and then come the different kinds of No. 3, marked with the *. No. 3*, is I believe found under all the others and there was too much water in the quarry to see what was under it. All these are

* It has since arrived.

used in the arsenal here as "Samy stone" by the native Sicklegihurs, and in addition to them they use 4, 5, and 6, none of which were found at Pohorah. I dare say however they are to be had there if a careful search could be made. The Commissariat supplies the arsenal with all these kinds under the name of "Country Emery." It is purchased in the bazaars, where it is brought by the Brinjarras, Beparries, &c. &c. No. 6 is called by the Madras Sicklegihurs the real "Samy stone," because it will scratch or cut tempered steel. Next to it, in their estimation, comes ^{*}3, ^{*}all the rest are good enough of their kind and do well enough for cleaning brass work. Pohorah is situated in a hilly country. The only hill however known to contain these stones is the one in which the quarry is. Not far from it is a hill containing 'soap-stone' some of which the people brought to me."

So far Dr. Macintire's chit.—The stones however are of two different classes and have no relation to Major William's Samy stone which is an Agalmatolite, and rather used, it would seem, for burnishing. But in the eight specimens Dr. Macintire furnishes us with, are two new varieties for our cabinets, one of which is very remarkable; the specimens are as follows :

No. 1. Decomposing Fibrolite.

No. 2. Common white Corundum.

No. 3. Grey mottled Fibrolite.

No. 3. Mottled Corundum.

*

No. ^{*}3. Black Corundum !

*

Nos. 4 and 5. Common rose and lilac coloured Corundum.

No. 6. A very fine white Corundum.

The Black Corundum is a very remarkable variety, and though distinctly giving the re-action of the Corundums before the Blowpipe, i. e. the Sapphire blue glass with nitrate of cobalt, I have failed to detect iron or manganese in it. We must wait for a supply of it to know what the colouring principle is.

H. PIDDINGTON,

Curator, Museum Economic Geology.

Report of Curator, Zoological Department, for July Meeting, 1850.

SIR,—The donations which I have now to record consist of,

1. The skin of a young Assamese Goral, resembling that of an adult formerly received, and both differing from the ordinary Himálayan Goral in being of a bright rufous colour. Presented by Major Jenkins, of Gowhatti.

2. Thirty-five additional species of land and fresh water shells, from various parts of India, presented by myself.

I have the honour to be, Sir,

Obediently Your's,

E. BLYTH.

July 1st, 1850.

LIBRARY.

The following additions have been made to the Library since the June Meeting.

Presented.

Statistical Report of the district of Cawnpur; by Robert Montgomery, Esq. Calcutta 1849, 4to.—BY THE GOVERNMENT OF THE NORTH WESTERN PROVINCES.

A Dictionary, English and Panjābi, Outlines of Grammar, also Dialogues, English and Panjābi, with Grammar and Explanatory Notes, By Captain Starkey, 3rd Regiment, Sikh Local Infantry; Assisted by Bussowa Sing, Jemadar. Calcutta, 1849, 8vo.—BY THE GOVERNMENT OF INDIA.

Memoirs of the Royal Astronomical Society, Vol. XVIII. London 1850, 4to.—BY THE SOCIETY.

Monthly Notices of the Royal Astronomical Society, Vol. IX.—BY THE SOCIETY.

Astronomie Indienne l'après la doctrine et les Libres Anciens et Modernes des Brammes sur l'Astronomie, l'Astrologie et la Chronologie suivie de l'Examen de l'Astronomie des Anciens peuples de l'Orient et de l'explication des principaux monuments Astronomico-Astrologiques de l'Égypte et de la Perse, Par M. L'Abbe J. M. F. Guerin. Paris 1847. 8vo.—BY THE AUTHOR.

The Calcutta Christian Observer, for July, 1850.—BY THE EDITOR.

The Oriental Baptist. No. 43.—BY THE EDITOR.

The Upadeshaka. No. 43.—BY THE EDITOR.

Tattvabodhiní Patriká. No. 83.—BY THE TATTVABODHINI' SABHA'.

Meteorological Register kept at the Surveyor General's Office, Calcutta, for the month of May, 1850.—BY THE DEPUTY SURVEYOR GENERAL.

Journal of the Indian Archipelago for April, 1850.—BY THE EDITOR.

Two copies of the same.—BY THE GOVERNMENT OF BENGAL.

Oriental Christian Spectator for May, 1850.—BY THE EDITOR.

Satyárnavā. No. 1.—BY THE REV. J. LONG.

Citizen. Nos. 1 and 3.—BY THE EDITOR.

Exchanged.

The Athenæum. Nos. 1173, and 1175 to 1177.

Purchased.

The Annals and Magazine of Natural History for April, 1850.

Kádambari, Vol. II. 5 copies.

Tattvakaumudi, 1 vol. 8vo.

Baiyákaraṇabhusana Sára, 1 vol. 8vo.

Dasakumára Charita, 1 vol. 8vo.

AUGUST 1850.

The usual monthly meeting was held on Wednesday, the 7th instant, at half-past 8 P. M.

The HON'BLE SIR JAMES W. COLVILLE, President, in the Chair.

The proceedings of the July meeting having been read and confirmed, the Secretary stated that Lieut. Stubbs and Mr. H. R. Alexander had intimated their desire to withdraw from the Society.

The following Gentlemen were named for ballot at the next meeting :

Rev. W. Smith—proposed by Rev. J. Long, and seconded by Capt. Smith.

Lowis Stuart Jackson, Esq.—proposed by Mr. J. R. Colvin, and seconded by Henry Bogle, Esq.

Read letters—

From J. Cassella, Esq., Consul General of H. M. King of Sardinia, forwarding a copy of a work entitled *Rapport sur les Etudes Chemin de fer de Chambéry à Turin*, presented to the Society by Professor Christofaro Negri, President of the University of Turin.

From Capt. Kittoe, relative to a communication regarding his researches into the ruins of Sárnáth, in Benares.

It was proposed by Mr. J. R. Colvin, seconded by Mr. Jackson and resolved—

That the substance of Capt. Kittoe's letter be forwarded to the Secretary to Government, North-Western Provinces, with an expression of the Society's sense of the interest that attaches to any Research into the antiquities of Sárnáth, and of its hope that the Government of the North-Western Provinces will be pleased to give such assistance as may be in its power, to the prosecution of Capt. Kittoe's enquiries.

From F. L. Beaufort, Esq., forwarding some bricks with Arabic inscriptions, from an old building near Jessore.

From Joseph Power, Esq. Principal Librarian, University Library, Cambridge, communicating the thanks of the University for a copy of the Sanscrita Anthology and the first 14 Nos. of the Bibliotheca Indica, presented to it by the Society, and requesting to be supplied with the continuation of the last named work.

Communications were received—

From G. Buist, Esq., Bombay, on the Encrustations of Steam Boilers and Pipes in India.

Ordered for publication in the Journal.

From Major J. Hannington, Chota Nagpur, Tables of Mortality according to the experience of the Bengal Civil Service, with values of annuities, assurance, &c.

From Mr. Blyth, Remarks on the modes of variation of nearly affined Species or Races of Birds chiefly inhabitants of India. Ordered to be printed in the Journal.

From Dr. Roer, Secretary, Oriental Section, submitting a report of the Section respecting Dr. Wise's History of Tipperah. After some discussion, Mr. J. R. Colvin proposed—That the Secretary communicate with Dr. Wise to ascertain his authority for receiving the History transmitted by him, as a History which the Rájás of Tipperah themselves consider to be an authentic record of the origin of their family, and of the succession of Rulers of the Tipperah Ráj.

The motion having been seconded by Mr. Mitchell, was carried.

It was further proposed by Mr. Jackson, seconded by Dr. Roer, and resolved—that the Bengali Chronicle of the Rájás of Tipperah be made over to the Rev. J. Long, with a request that he will re-examine it, and submit to the Oriental Section such parts or notices of it as he may consider of such historical or other value as to be deserving of publication.

From the same, suggesting, in reply to a reference from the Society, that a copy of the Bibliotheca Indica be presented to each of the following institutions, namely,

University of London.

————— Edinburgh.

————— Utrecht.

————— Leyden.

————— Berlin.

————— Bonn.

American Oriental Society.

Asiatic Society of Ceylon.

————— of Hong Kong.

For all the above communications and donations, the thanks of the Society were voted, and the meeting adjourned.

Confirmed 4th September, 1850.

Signed { W. JACKSON, *Vice-President*.
F. HAYES, *Secretary*.

Report of the Curator, Zoological Department, for August Meeting, 1850.
To the Secretary of the Asiatic Society.

SIR,—I have only on this occasion to report the arrival of a large box of skins of mammalia and birds collected in the Kandian territories by Dr. Kelaart, of the Ceylon Medical Service. They are sent to me privately for comment, with permission to present certain specimens to the Society; and I propose to draw up a paper of descriptions of some of them for publication in the Society's Journal.

I have the honour to be, Sir,
Your's obediently,

E. BLYTH.

Asiatic Society's Room, Aug. 30, 1850.

LIBRARY.

The following additions have been made to the Library since the last meeting.

Presented.

Rapport sur les Etudes du Chemin de fer de Chambéry à Turin, et de la Machine proposée pour exécuter le Tunnel des Alpes entre Modane et Bardonnèche par M. le Chevalier Henri Maus: et Rapport rédigé au nom de la Commission chargée de l'examen de ces études par M. le Chevalier Pierre Paleocapa, Turin 1850. fol.—PRESENTED BY M. CHRISTOFARO NEGRI.

Report of the Revenue Administration of the Lower Provinces, for 1847-8, (fol. Pamphlet).—BY THE GOVERNMENT OF BENGAL.

Futtehgur-Nameh, by Halay Rae, Deputy Collector. (Urdu).—PRESENTED BY SIR HENRY ELLIOT, KT.

Report by the Secretary, on the Proceedings of the Bombay Geographical Society for 1849-50.—BY G. BUIST, ESQ.

A few Remarks on certain Draft Acts of the Government of India, commonly called the "Black Acts." By Ram Gopaul Ghose. Calcutta 1850, 8vo. pamphlet.—BY BĀBU RA'JENDRALĀ'L MITTRA.

A Letter to J. C. Melvill, Esq., Secretary to the East India Company, on the Grand Exhibition of Art to be held in London, in 1851, as connected with the manufactures and raw produce of India. By J. Tailor, Esq. 1850, 8vo. pamphlet.—BY THE AUTHOR.

Journal of the Indian Archipelago, for May, June and July 1850.—BY THE EDITOR.

The Oriental Baptist, No. 44.—BY THE EDITOR.

The Calcutta Christian Observer, for Aug. 1850.—BY THE EDITORS.

Upadeshaka. No. 44.—BY THE EDITOR.

Tattvabodhiní Patriká. No. 84.—BY THE TATTVABODHINI' SABHA'.

Annual Report of the Tattvabodhiní Sabhá, for the Bengali year 1771.—BY THE SAME.

The Oriental Christian Spectator, for June 1850.—BY THE EDITOR.

Meteorological Register kept at the Surveyor General's office, Calcutta, for the month of June 1850.—BY THE DEPUTY SURVEYOR GENERAL.

Purchased.

Comptes Rendus. Nos. 12 @ 20 of 1850.

Journal des Savants for January, February and March 1850.

Annals and Magazine of Natural History, for June 1850.

SEPTEMBER 1850.

At a meeting of the Asiatic Society held on the 4th instant—

WELBY JACKSON, Esq. Vice-President, in the Chair.

The Proceedings of the preceding meeting were read and confirmed.

The following gentlemen, having been duly proposed and seconded at the last meeting, were balloted for and elected Members.

Rev. W. Smith.

L. S. Jackson, Esq.

Notes were recorded from Dr. Macrae and Rev. S. Slater, withdrawing from the Society.

Read a letter from W. Jackson, Esq. presenting a copy of a work on the Statistics of Agra, by C. C. Jackson, Esq.

The Secretary submitted an application from Mr. H. Roberts, Assistant to the Zoological Curator, soliciting an increase of Salary, also a note from the Council, stating that under the present state of the Society's Funds, they do not think themselves justified in recommending any increase of Salary to Mr. Roberts.

The Librarian and Zoological Curator having submitted their usual monthly reports, the meeting adjourned.

Confirmed, 2nd October, 1850.

WELBY JACKSON, *Vice-President.*

FLETCHER HAYES, *Secretary.*

Report of the Curator, Zoological Department, for August, 1850.

SIR,—My present Report records the presentation of the following donations.

1. Báhu Rájendra Mallika—A dead Lemur, the skin and skeleton of which have been prepared.

2. Rájá Pertáb Chand Singh—A recent specimen of a Shark.

3. Capt. Berdmore, Madras Artillery, Moulmein. A collection of skins chiefly procured at Mergui. Among them is that of a Squirrel which does not exactly tally with any previously examined. In the bird class, it adds a very beautiful Malayan Owl, *Syrnium seloputo*, (Horsfield,) to the Society's collection; and there are specimens of the young of *Sturnia sinensis*, a species stated by Mr. Lesson to inhabit the Malayan peninsula and Cochin China as well as China. Also specimens of *Argus giganteus* and *Euplocomus ignitus*, neither of which magnificent *Gallinaceæ* had previously been observed so far

to the north.* And Capt. Berdmore has sent examples of *Collocaliæ* (the edible-nest building Swiftlets) from the Mergui Archipelago, both skins and examples in spirit, with the nests and eggs, the former old and of inferior quality. The species resembles *C. brevirostris*, (McClelland,) but is larger than I had previously seen. I may further remark that I am indebted to Capt. Berdmore for some living specimens of the new Duck described in *J. A. S.* XVIII, p. 820, by the name *Sarcidiornis ? leucopterus*; but it proves to be a typical species of *Casarca*.

I have the honour to be, Sir,

Your's obediently,

E. BLYTH.

LIBRARY.

The following books have been received since the last meeting.

Presented.

The Report of the British Association for the advancement of Science, for 1849.—PRESENTED BY THE ASSOCIATION.

Statistics of Agra; by C. C. Jackson, Esq.—PRESENTED BY W. JACKSON, ESQ.

The Calcutta Christian Observer, for September 1850.—BY THE EDITORS.

The Oriental Baptist, for September 1850.—BY THE EDITOR.

The Oriental Christian Spectator, for July 1850.—BY THE EDITORS.

Upadeshaka. No. 45.—BY THE EDITOR.

Journal of the Indian Archipelago, for May and June 1850, 2 copies.—BY THE GOVERNMENT OF BENGAL.

Meteorological Register kept at the Surveyor General's office, Calcutta, for the month of July, 1850.—BY THE DEPUTY SURVEYOR GENERAL.

The Tattvabodhiní Patrikā. No. 85.—BY THE TATTVABODHINI'SABHA'.

Rájabyabasthá, or a Bengali Translation of Mr. Beaufort's Digest of the Criminal Law of Bengal. By Hemachandra Mukarjya of Janáí.—BY THE TRANSLATOR.

Exchanged.

The Athenæum. No. 1120.

Purchased.

Bopp's Comparative Grammar, Vol. III.

Wallace's Memoirs of India.

Flügel's German Dictionary.

Edinburgh Review, No. 182.

Annals and Magazine of Natural History, No. 31.

Comptes Rendus, Nos. 21 @ 25, for June 1850.

Journal des Savants, for May and June.

* Hardwicke erroneously states that *A. giganteus* inhabits Sylhet. Vide MS. in British Museum.

